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TRAINING CLASS SYLLABUS

New York (State) University

	PAGE
Arithmetic	5
Psychology and principles of education	9
School management	16
English	21
Physiology and hygiene	27
Methods in reading, spelling and writing	34
Training class history	39
School law	40
Nature study and agriculture	43
Drawing and hand work	43
Training class notes	44
Geography	76

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THE UNIVERSITY OF THE STATE OF NEW YORK

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ARITHMETIC

The outline that follows covers the subject matter of arithmetic which training classes should master. Should previous preparation render it unnecessary to spend much time on the review indicated the work may be broadened by additional topics and additional mental problems. Emphasis should be placed upon the best method of teaching the topics studied.

I Number
- 1 Concrete
- 2 Abstract

II Notation and numeration
- 1 Arabic
- 2 Roman
- 3 Drill in reading and writing by both the Arabic and Roman systems

III The fundamental operations
- 1 All combinations of the digits
- 2 Development of written processes
- 3 Use of signs and equations
- 4 Applications
  - *a* oral, with practice
  - *b* written, with special attention to forms of explanations

IV Properties of numbers
- 1 Classification
- 2 Tests of divisibility
- 3 Factoring
- 4 Divisors and multiples

V Common fractions
- 1 Explanation and definition of the fraction and fractional unit
- 2 Terms
- 3 Reduction

4 Addition, subtraction, multiplication, division, with special attention to development of processes
5 Applications

VI Decimal fractions

1 Derivation
2 Reading and writing decimals
3 Fundamental processes developed
4 Applications

VII Aliquot parts

Applications

VIII Denominate numbers

1 Tables, common units
2 Practical problems
3 Measurements and their application
4 Longitude and time

IX Percentage

1 Principles
2 Problems
a general
b commission
c stocks
d profit and loss
e insurance
f taxes
g duties and excise taxes
h simple interest
i bank discount
j partnership

X Ratio and proportion

XI Involution and evolution

1 Powers
2 Roots
3 Square root
4 Applications

Observations and suggestions

The object of the study of arithmetic is twofold: first, utility; second, training.

The work of the first five years should make the pupil familiar with the fundamental operations, common and decimal fractions, and their application to simple problems which fall within the observation and experience of the pupil. As early as the second

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year problems should be used which apply in concrete form the combinations of numbers already presented. As the work progresses the number of such practical problems should be increased, until, in the fifth year, at least one-half the recitation time should be given to the solution of problems. This work should be largely oral. The pupil should first state the problem, then in connected sentences give the solution, with the reason for each step taken.

Problem making should become an important feature. Under the direction of a resourceful teacher pupils will acquire facility in the creation of problems and in their oral solution. When a pupil presents a problem he should be able to solve it. He should give a clear and complete solution, and at the same time avoid useless repetitions.

The drill work for the first years should systematically cover the combinations necessary to a mastery of the fundamental operations. This work should proceed from the concrete to the abstract, until the pupil can rapidly and accurately perform the operations of adding, subtracting, multiplying and dividing simple numbers, fractions and decimals. Speed should never be attempted at the expense of accuracy, and yet rapidity in the use of numbers should always be sought as essential to highest excellence. Accuracy and rapidity depend on the same concentration of mind as leads to correct judgment upon each step. Oftentimes the greater rapidity of action, the less opportunity for that diversion of thought which results in error. It is an established fact that the most rapid accountants are usually the most accurate. Speed tests in computation by the use of definite time limits should be frequently employed. Practice with number cards and like devices, using two numbers at one time, while of great value, can not take the place of long columns for addition, or of large numbers for the other fundamental operations.

The natural desire of a child for self-achievement should be encouraged. Care should be taken not to do for him what he ought to do for himself. Self-reliance should be stimulated by encouraging him to work independently in the solution of problems, and by appreciative recognition to successful individual effort. That this course of developing lifters and not leaners may be successful, work must progress only so fast as it can be completely mastered.

There is a difference between telling a pupil how to operate and suggesting how he may learn to operate. The teacher who can give proper suggestions has a valuable asset in his work, but

the one who only tells fosters weakness and helplessness in the grades that go far to explain the inability of high school pupils to master algebra and geometry.

Processes should be developed before rules are called for. Certain "constants" must be memorized for instant use. Among these are the most common aliquot parts, the tables of denominate numbers, and certain values deduced from these tables or from other sources. Among such values are the number of feet in a mile, rods in a mile, square rods in an acre, acres in a square mile, cubic inches in a gallon or bushel, inches in a meter, ratio of circumference to diameter of the circle, or of the square of the radius to the area of the circle.

Denominate numbers should first be taught by the use of actual units in the hands of the pupils, and such use should be continued until accurate concepts are formed.

Diagrams, models of type solids, and tablets representing type surfaces should be used in the solution of problems involving measurements. After pupils have acquired a mastery of the fundamental operations and of the use of common and decimal fractions, only part of the problems in the ordinary textbooks need be worked to secure the numerical result. Time is often given to long operations which might better be used in indicating the necessary steps to be taken in solution, or in concisely telling just how the problem can be solved, and giving the reasons therefor.

Much oral work should be done in percentage, and when percentage problems are thus solved the pupil should ordinarily think of the rate as a common fraction and work accordingly. Thus, in the example: A man sold a hat for $2.25 and gained 12½ per cent; what was the gain? the pupil should see that $2.25 is nine-eighths of the cost and give the analysis accordingly.

It is advisable to use but one method of working examples in simple interest. The 6 per cent method is recommended. Pupils should be drilled to give mentally the interest at 6 per cent on $1 for any number of years, months and days. When facility in this is acquired, the working of any example in simple interest is merely a matter of multiplication if the rate is 6 per cent; and with any other rate, the interest should first be found at 6 per cent and this result increased or diminished as the case may require.

While but one method of work is recommended for an oft-repeated process like that of computing interest, yet in many other kinds of problems which can be solved in various ways, pupils

may advantageously be asked for more than one solution. A pupil in finding a number of solutions for a simple problem develops more power than in using the same form of solution for working a dozen similar problems. When various solutions are presented they should be duly compared and preference should be given to that which is most direct.

Consider the following example: A man purchased 600 bushels of potatoes at 40 cents a bushel; he sold one-fourth of them for 60 cents a bushel, one-half of the remainder for 50 cents a bushel, and the remainder for 30 cents a bushel; what was the result of the transactions? In this problem it is natural for a pupil to find the total cost, the three selling amounts, then take the difference between the cost and total amount received. Much the simpler way is to note 20 cents gain on each of 150 bushels, 10 cents gain on each of 225 bushels, 10 cents loss on each of 225 bushels.

The advantage of short processes should be emphasized. Pupils should be taught how to test the accuracy of their work. For this purpose they should frequently state and solve another problem whose answer will prove the accuracy of the original work. In the example, What is the interest of $225 for 3 years and 7 months at 7 per cent? a "check problem" would be: If the interest on $225 for 3 years and 7 months is $56.4375, what is the rate?

Most of the work in the metric system should be simple, in the main consisting of changing values from the common to the metric system or the reverse. As a basis for this work the actual units should be placed in the hands of the pupils and by their use the comparative values thoroughly learned.

PSYCHOLOGY AND PRINCIPLES OF EDUCATION

To make psychology of value in the training of teachers, it is necessary definitely to understand its purpose. It does not aim to make skilled psychologists nor to discuss fine psychic theories. It is necessarily brief and elementary. Each step has direct bearing upon the work of the whole course in that it aims to answer the question *why* in the selection of matter, in method and in discipline. When and how a child is to be encouraged, guided, corrected, is determined in the last analysis by the infallible laws of mind action. A clear, concise knowledge of these laws in their application to the school is the purpose of this study.

To accomplish this, it is necessary, first, to understand the fundamental processes and how they are related, then to make application of this knowledge in the work of teaching.

In acquiring the first result, the pupil should ordinarily use but one textbook, such supplementary explanation as is necessary being done by the teacher. The reason for this is that in a subject so entirely new and unrelated to previous study, the pupil is often confused by the differences in nomenclature and in methods of treatment.

The fact as presented must first be clearly apprehended from the text. Too often, however, the topic is dropped at this stage, violating the very principle of method for which psychology should show the reason. Next comes the subjective verification. By repeated experiments the pupil must learn to comprehend and analyze the different states and activities in his own consciousness. He must, for example, out of his own experience, recognize sensation, note the process of judgment, verify the laws of association. If he stops here, he may have a little knowledge of the subject, but he will fail in objective application, and that is the real goal of this work. The third step then is to aim to understand the mental processes of another through one's own activities. It is not enough for the pupil to determine the elements that enter into his own judgments, but he must learn to analyze the judgment of another with a view to strengthening or correcting it. It is not enough to classify a particular emotion, but it is also essential to know why certain stimuli in the child will arouse certain emotions.

These then — (*a*) textbook exposition, (*b*) subjective and (*c*) objective verification and application — are in their order the three steps in understanding the primal phases of the mind in its various conditions and operations. (*d*) Finally there should be accurate definition based not upon verbal memory but upon the result of the processes above indicated.

The course begins with the study of the intellectual processes; when these are comprehended, the way is open for the consideration of feeling with its attribute of pleasure and pain and for the analysis of the operations that tend toward action.

A Descriptive psychology — mental phenomena

I Knowing

Introduction — relation of mind to body

- *a* dependence of mind upon nervous system
- *b* elements of nervous system
- *c* function of nerves, spinal cord, cerebellum, cerebrum
- *d* afferent and efferent nerves — reflex action

e the senses
f "reaction time"

Presentative faculties

1 Sensation
a physical factors
b psychic factors
c sensations classified as to (1) kind — organic and special, (2) degree of intensity — Weber's law
d possibility of pure sensation
e result of loss of sensation

2 Perception
a prehensive element — dependence upon immediate sensation
b apprehensive element — dependence upon past sensation
c percept

Representative faculties

3 Memory and imagination
a relation of memory to (1) the senses, (2) percepts
b powers involved in memory: (1) retention, (2) reproduction, (3) recognition
c formation of images — distinction between image and percept
d constructive imagination — its possibilities and limitations
e idea defined and compared with percept

Elaborative faculties

4 Conception — first step in thinking
a the several processes involved in conception: (1) presentation, (2) comparison, (3) abstraction, (4) generalization, (5) denomination
b its relation to perception and memory
c concept defined and compared with percept and idea
d how words get their meaning — making a vocabulary

5 Judgment — second step in thinking
a sources of material for judgment
b process of judgment — comparison of ideas
c the proposition — its elements

6 Reasoning — third step in thinking
a judgments furnish material
b processes: (1) inductive, (2) deductive — value of each, their interrelation

c the syllogism — in parts
d reasoning by analogy — its advantages, disadvantages

II Feeling — passive compared with knowing, active; an effect due to the presence of its appropriate object
1 Attributes of pleasure and pain — their purpose in life
2 Intensity of feeling dependent upon intensity and duration of stimulus
3 Caused by
a peripheral excitation
b idea
4 Emotions and simple feeling — relation analogous to that between perception and sensation
a presence of idea in emotion
b kinds of emotion: (1) egoistic, (2) altruistic, (3) intellectual, (4) esthetic, (5) moral, the last three being called sentiments

III Will — "the attentive guidance of our conduct"
1 Desire — its relation to
a feeling
b intellect
2 Deliberation — its basis in experience; its relation to judgment; its significance
a subjectively — doubt
b objectively — hesitation
3 Decision — its relation to feeling and to reason
4 Action voluntary — compared and contrasted with the several forms of involuntary action
a reflex
b impulsive
c instinctive

To this point the course concerns itself with the demarcation and definition of the different mental phenomena. Now emphasis should be laid on (*a*) the mind's complexity of operation and (*b*) the unity of mind. In the simplest operation many states are involved. Knowing, feeling and willing can not be isolated from each other, or from their physical concomitants; nor even any one phase of these from all others. Therefore, the work should now be reviewed and intensified by showing this complexity — for example, how a simple act of perception embraces emotion, volition, and even memory, judgment and conception.

The way is then made clear for comprehending the entirety of consciousness in its duration and degrees of intensity.

A[1] Descriptive psychology — the mind a unit

Introduction — consciousness

1 Its definition based on the previous study

2 The resultant definition of psychology

3 Conscious and subconscious states in their relation to memory; "threshold of consciousness"; unconsciousness

I Attention —"focusing of consciousness"

1 Dependent upon
- *a* physical condition
- *b* quantity and quality of stimulus

2 Kinds
- *a* reflex
- *b* voluntary — its relation to will

3 Observation — a series of connected acts of attention
- *a* perceptual element
- *b* attention involving will — arousing interest
- *c* interpretation of elements perceived
- *d* observation and experiment — new element in the latter

II Interest — an emotion — how it affects attention

1 Kinds
- *a* natural
- *b* acquired

} their relation to sensation, memory, judgment etc.

2 Relation of will to interest

III Association of ideas — impossibility of an isolated idea

1 Relation of association to memory, to thought

2 Laws of association
- *a* association by contiguity
- *b* association by similarity or contrast

IV Apperception —"Association is one form of apperception; thinking another"

1 Determined by
- *a* experience
- *b* perception

2 Effect upon thinking, action and feeling

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[1] Knowing prominent.

V Intuition — intuitive and deliberative judgments compared as to
1 Process
2 Frequency
3 Use

Feeling prominent

VI Physical concomitants of feeling, emotion, sentiment
1 Muscular
2 Nervous

Will prominent

VII Habit
1 Its physical factors — relation to activity of muscles and nerves
2 Its psychic factors — relation to knowing, feeling and willing
3 Laws of habit

VIII Character — "Character is known by conduct and conduct is the result of habit"
1 Conduct — relation to habit
2 Moral judgments
3 Phases of development
a instincts
b imitation
c will

The above divisions aim to give a clear elementary knowledge of how the mind works. But for the teacher this is not enough. He must know what mental phenomena are most prominent in the child's life at a particular age and stage of development if he is to direct intelligently the child's education.

B Genetic psychology — order and stages of development

Introduction — a special form of descriptive psychology modified by laws of growth

I Factors in development
1 Influence of heredity
2 Environment
a physical
b social
3 Fundamental capacity

II Order of development through

1 Infancy
2 Childhood
3 Youth
4 Adolescence
5 Maturity

} Trace — with reference to their beginning, growth and period of greatest power — the different phases of knowing — as perception, memory and judgment, of feeling and of willing

When the pupil understands mind in its processes and its unity, and child mind in its growth, he is ready to apply what he has learned, *as principles of education,* to the art and science of teaching. This fundamental knowledge with its genetic attributes gives direction to the two forces of school work — instruction and discipline — which, though their separation is more apparent than real, may be better understood by separate consideration.

The teacher, in planning the new lesson, divides it into the conventional parts — preparation, presentation and application — or possibly into "the five formal steps." The exact division is not material but it is of consequence that he sees to it that each step finds its sanction in the laws of mental process. He may use "apperception," for example, in accounting for the work of preparation, but unless he understands the elements of apperception, it may be only a cloak for concealing ignorance that might better be laid bare. In a review lesson, why is the method different? This question must be answered in terms of results to be obtained which are to be approved only as they accord with the normal processes of mind.

In discipline the problem is similar. There is a difference in strength and quality of emotion and will, determined by the nature, period of growth and surroundings of every child. What will inspire a sluggish mind, what correction is best for a particular case of disorder, what is the value of reading to a class Shelley's *The Cloud* or of placing on the wall a copy of Millet's *Angelus?* — these questions have their answers grounded in psychology.

The power to solve such problems of instruction and discipline is the particular aim of this course.

C Principles of education

Introduction — The order in which the powers of the mind develop determines what to teach, when and how to teach it.

Physical factors

1 Schoolroom comfort

2 Exercise and play
3 Rest and fatigue — in their bearing upon attention

I **Instruction**
1 Course of study — selection of subject matter according to its value for training and development in natural order, e. g.
a observation — nature study
b memory — logical and verbal, in literature, number
c imagination — fairy stories, myths compared with history and geography
d judgment — accuracy conditioned by *a, b, c*
e reason — when it should be relied upon — tracing of cause in mathematics, history
2 Recitation
a presentation of new material
b review
Analysis of different mental processes involved according to the subject, and the maturity of the class

II **Discipline — Its immediate aim is educational process; its ultimate aim, character**
1 How its aims are promoted through physical factors, course of study and recitation
2 Special consideration of cultivating the emotions. Every emotion has its function in life
a how the emotions are related to subjects in the course of study — poetry, number etc.
b inhibition of emotion
3 Imitation — personal factor — influence of the teacher
4 The will — character, a completely fashioned will
a value of habit
b defects to be overcome
c training according to order of growth

"The formation of character underlies the cultivation of all the powers of the mind."

SCHOOL MANAGEMENT

The term school management as used in this syllabus is a comprehensive one. The topics named below indicate its scope. Examinations in this subject call for a knowledge not only of the organization of the school, the control of pupils, and the management of classes, but also of such important topics as school hy-

giene, the appointments of school buildings, and the equipment of the school.

While such matters as the construction of the school building, the mode of heating, and the arrangement of windows are provided for by other persons than teachers, it is, nevertheless, important that teachers know correct standards to the end that they can intelligently call attention to unsatisfactory conditions and especially that they may be able to make the best use of the appointments provided. It is altogether too common to find a building furnished with adjustable seats that are not adjusted to fit the pupils occupying them, seats improperly placed in the room, the room overheated and window shades improperly adjusted. Throughout the course the members of the training class should be led to observe the conditions in the school with reference to such matters. It is not enough that the theory be presented. Frequent reports should be required on existing conditions. It is as important, likewise, that members observe and discuss the cleanliness of the floors, desks and shelves, the general tidiness of the room and the care of the school equipment, as it is to observe and discuss methods of teaching lessons. The responsibility of the teacher for ascertaining precisely what equipment is available and for making proper use of such equipment should be impressed.

While no one textbook now published covers adequately all the topics mentioned below, as a rule, the attempt should not be made to instruct a training class in this subject through lectures and discussions alone.

The management of the school is essentially a matter of administration. It requires what is commonly known as executive ability. The teacher must make his action fit conditions. Personality counts for a great deal. Decision of character and good sense must be in evidence. The handling of a class requires something more than a knowledge of the subject to be taught and the methods of presentation, as important as these may be. The management of a school should be in accordance with the laws of the mind, but these laws are to be learned in the study of psychology rather than in the study of school management.

Method in general should be considered but not methods of teaching particular subjects. Proper emphasis should be given to the importance of the recitation. At the same time the need of training pupils to prepare themselves for their recitations should be emphasized.

I **Grounds**

Surroundings — desirable and undesirable. Size, character and soil drainage. Means of beautifying. Use. Care. Teachers' responsibility.

II **Building**

Size and shape of schoolroom. Standards of floor surface, air space and lighting. Methods of heating and ventilating. Effects of improper lighting, heating and ventilating. Proper seating — size of seats, positions, distance apart, adjustment. Blackboards — height, color, character of surface, material, extent, crayon, erasers. Teachers' responsibility.

III **Decoration of rooms**

Tinting of walls. Suitable pictures — appropriate size, framing, hanging. Other decorations — casts, vases, plants, Attention to tidiness and general arrangement of the furnishings of the room.

IV **School hygiene**

Relation of bodily conditions to mental work. Rest periods. Recesses. Calisthenic exercises — use and abuse. Posture. Color and adjustment of shades. Regulation of temperature of the room. Avoidance of drafts. Drinking water. Toilet accommodations. Home study. Eyesight in relation to school life. Diseases that concern the school. Dangers of dust. Daily attention to cleanliness.

V **Equipment**

Library and apparatus. How to secure each; proper use of each; means of caring for each. Inventory of books and apparatus. Teachers' responsibility.

VI **Relation of the teacher to the community and its educational interests**

Means of interesting the community and securing cooperation.

VII **Organization**

Characteristics: simple, definite, systematic, practical. Importance of a good beginning. Preparation for first day of school. Registration of pupils. Seating of pupils. Assignment of work. Tentative program. Beginning work promptly.

VIII **Mechanical routine**

Passing in and out of the room. Passing to and from classes. Distribution and collection of materials. Location

and care of wraps. Orderly arrangement of books and materials in desks. Signals. Proper use of blackboards. Leaving seats. Leaving room. Limitations of mechanical routine.

IX **Recess**

Importance. Time of day. Free play versus calisthenic exercises. Use of marching in schoolrooms — cautions. Supervision of play and playground.

X **Attendance**

Means of securing regularity and punctuality. Excuses. Reports to parents. What constitutes necessary absence and tardiness.

XI **Registers, records, reports**

Importance of accuracy, completeness, preservation. Forms.

XII **School government**

Aims of discipline. Necessity of authority. Proper characteristics of authority. Influence of personality of the teacher; the value of the voice, the eye and other such factors in the control of the school. Conditions of easy control. Pupils' self-government. Rewards and punishments — proper and improper. Consideration of particular classes of cases likely to arise.

XIII **Programs**

Factors involved in making a program. Relative importance of various subjects. Relation of subject matter to fatigue. Position of subjects on the program. General exercises. Number of classes. Correlation of studies. Typical graded school program. Typical ungraded school program. Importance of holding closely to program adopted. Study program. Recitation program. Relative time given to study and recitation. Preparation of tables showing weekly time allotment (study and recitation) for each subject of the course expressed in minutes: (*a*) in graded school, (*b*) in ungraded school. Reasons for and objections to dismissing younger pupils early.

XIV **The recitation**

1 Its extreme importance, especially in lower grades

2 Importance of definite purpose and teacher's special preparation for each recitation

3 Aims of the recitation — variously considered

4 Means of arousing interest and of holding attention

5 The assignment of the lesson: time, purposes, manner

6 Preparation of the lesson

A regular time for preparation. Planning for the study period. Supervision of the study period. Teaching how to study, especially in intermediate and higher grades

7 Five formal steps of the recitation: preparation, presentation, comparison, generalization, application. Characteristics of each step. Limitations of the lvefold division of the recitation. Practical hints

8 General characteristics of inductive and deductive teaching. Knowledge of the terms: analytic, synthetic; objective, subjective; empirical, rational

9 Particular or individual methods

Lecture, question, Socratic, topic. Advantages and limitations of each.

10 Oral and written work in recitation. Advantages and limitations of each. Frequency of written exercises. Tendency to an excess of written work in both the preparation and the recitation of lessons

11 The art of questioning. General purposes of questioning. Avoidance of overquestioning. Character of questioning in lower grades, in upper grades. Kinds of questions and special purpose of each. Faulty questioning

12 Length of the recitation in the several grades and subjects. [*See* outline under XIII Programs]

13 Importance and limitations of drill. The material for drill

14 The unprepared pupil

Reasons for lack of preparation. Treatment of the unprepared pupil

15 Recitation waste

Need of constant watchfulness. Rights of the class versus the rights of the individual. Enlisting the cooperation of all members of the class; means employed

16 Individual instruction

When, where, why and how given

XV **Textbooks and syllabuses**

Uses and abuses of each.

XVI **Results to be tested**

1 Efficiency in habit building: seen in movements and posture of pupils, line-movements of the class, written

work, blackboard work, speech, dress, cleanliness, accuracy and rapidity of execution.

2 Knowledge: oral examination, written examinations: character of each, relative advantages of each, frequency of each. Proper manner of conducting written examinations, length, in what grades to be given, rating of papers. District superintendents grade examinations.

3 Power of application: relative importance; suitable tests in application of knowledge.

Reference books

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Baldwin, Joseph. School Management and School Methods.
Burrage & Bailey. School Sanitation and Decoration.
De Garmo, Charles. Interest and Education.
Hamilton, Samuel. The Recitation.
Hinsdale. B. A. The Art of Study.
Landon, Joseph. Principles and Practice of Teaching and Class Management.
McMurry & McMurry. The Method of the Recitation.
Newsholme, Arthur. School Hygiene.
Rowe, Stuart H. The Lighting of Schoolrooms.
Sabin, Henry. Common Sense Didactics.
Seeley. New School Management.
Shaw, Edward R. School Hygiene.
White, Emerson E. School Management.

ENGLISH

No more difficult problem confronts the teacher of English in the training class than that of proper time allotments, for subject matter, methods and the review of the leading principles of grammar and rhetoric. In the absence of specific directions, there has been a tendency to overemphasize formal grammar and rhetoric to the neglect of matters more fundamental — a tendency that would be more excusable if rural teachers were mainly concerned with teaching the grammar grades.

It is suggested that from one-fourth to one-third of the time should be used in gaining first-hand acquaintance with the literature assigned for appreciative reading, the memory gems, the supplementary reading and with that recommended for grade libraries. In this reading the emphasis should be laid upon the subject matter itself, the consideration of its value to the grade in which it is studied and its adaptability to that grade.

The teacher should keep in mind that there are three distinct purposes in this study of literature: first, the power to appreciate a masterpiece; second, the unconscious development in the child of a better quality of thought; third, the formation of ideals of expression.

The time for this work is brief. Therefore a large portion of the reading must necessarily be cursory but there should be an intensive study of a few selections with careful notetaking.

One-third of the time may well be given to a study of general and special methods applying well-recognized principles of psychology. To be of much value each step in this study must be exemplified by observation lessons and plan work.

From one-fourth to one-third of the time may properly be given to a review of analytic grammar, elementary rhetoric and practice in composition work.

Theoretically, it is more pedagogical to carry on these three lines of work together; practically, it will be found expedient to carry on the first two lines together and postpone the third to the latter part of the term; otherwise, many teachers will find that they have neglected the more important work for the less important.

It is recommended that pupils keep carefully written notebooks, prepared by themselves, not dictated by the teacher. If loose notes are first brought to the class and there criticized before they are entered in the permanent notebooks, valuable habits of composition may be formed. The purpose of this notebook is not to give pupils fixed forms to follow in their teaching but to form in them habits of helping themselves when they shall have entered upon their work.

These notebooks might contain among other things the following.

1 A list of books read with comments on the value of each and the use to be made of each

2 A list of selections chosen for reading to the pupil

3 A list of books adapted to home reading

4 A list of stories easily dramatized

5 Plans for observation lessons

6 Plans for reproduction exercises[1]

7 Plans for oral composition based on experiences

8 Adaptations and condensations of stories for telling

9 Model sentences to be used for copying

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[1] It should be carefully noted that paraphrasing is not a kind of reproduction exercise recommended in this syllabus.

10 Model letter forms to be used for copying
11 Model paragraphs for dictation exercises
12 Plans for memorizing
13 Pictures suitable for use in composition classes

Throughout the work the following fundamental principles and cautions deserve emphasis:

1 That in teachers training classes more attention should be given to the work outlined for primary and intermediate grades than to that outlined for grammar grades

2 That the child has much to say concerning his own experiences and the events that occur in his world

3 That the English teacher should seek to improve the child's power to express his thoughts and feelings

4 That the ability to express thought and feeling is acquired largely by imitation

5 That imitating good models found in literature is effective in acquiring the art of expression

6 That frequent repetition of correct forms promotes good habits

7 That the study of English should give culture as well as discipline; therefore, the pupil's mind should be nourished and stimulated by contact with literature of power and beauty

8 That by memorizing passages of good literature, the pupil becomes possessed of good thoughts, acquires standards by which to judge of literary values and gains a purity and precision of expression

The following outline of study is suggested:

I **Primary grades**

1 The literature recommended for use in the primary grades (*a*) for the teacher, (*b*) for class use, (*c*) for home reading

2 Oral composition

a observation lessons: their meaning, nature and use; suggestive plans

b experiences: what kind of experiences can be used for oral compositions; suggestive plans

c reproduction: their basis; value; use in securing logical thinking, in teaching oral paragraphing; suggestive plans

d silent reading: its value as a basis for oral composition work

e pictures for composition work

3 Written composition[1]
   a copying of models; suggestive models
   b dictation exercises; suggestive models
4 Drills
   a the kinds of drills suitable for primary grades; oral drills; written drills
   b suggestive list of drills; plans for drills
5 Story-telling
   a its value as a recreation; as a basis for reproduction work
   b the characteristics of a good story for primary grades
   c condensation of long stories for small children
   d suggestive list of suitable stories
5 Dramatization
   a its value direct and indirect
   b the kind of selections readily dramatized
   c suggestive list of selections for dramatization
7 Class reading: a review of the Training Class Syllabus of reading for primary grades
8 Memorizing
   a how memorizing is best secured
   b the value of memorizing
   c list of suitable selections
9 The aims and limitations of English teaching in primary grades

II Intermediate grades

1 The literature recommended for use in the intermediate grades: (*a*) for the teacher, (*b*) for class use, (*c*) for home reading, (*d*) means of securing good literature through the purchase by the district and State duplication and by traveling libraries
2 Home reading: its value; how secured
3 Oral composition
   a list of materials that may be used as a basis for oral compositions (*see* I, 2)
   b correlation of composition work with nature study, geography, school decoration, history and hygiene
   c kinds of oral composition work: [2] narration, de-

[1] Rules and reasons are not to be employed. Depend upon correct practice.
[2] These should be taught wholly by practice under guidance of the teacher. Children of intermediate grades should not be drilled in analytical rhetoric.

scription and exposition based on models from good literature

d reproduction: the kinds of material best suited for reproduction work from stories; from home reading

e incentive to oral composition: stories told by the teacher; selected passages read in class; the use of the newspaper and current topics; pictures; reports of games, excursions, visits

f the relative values of written and oral compositions; the danger of an excess of written compositions

g plans for oral composition work

4 Written composition

a model paragraphs for copying — narrative, descriptive, expository

b model dictation exercises

c model letter forms

d development of written paragraphs after the same have been developed orally

e combination of paragraphs into simple but complete compositions, giving particular attention to logical sequence

f suggestive list of topics to be assigned for letter writing

g methods of correcting written work

h evils resulting from paraphrasing

5 Drills

a a list of drills recommended for intermediate grades

b plans for drills

c how much time should be spent in drills

6 Use of library

a the use of indexes, dictionaries and reference books

b how the use of the school library may be encouraged for reference; for home reading

7 Story-telling and reading to the class

a the special value of these exercises

b suggestive list of stories and readings

8 The vocabulary

a how built up

b what intermediate pupils should learn from the dictionary

9 Class reading: a review of the Training Class Syllabus of reading for intermediate grades

10 Informal grammar

a the classification of words, phrases, clauses and sentences

b the discovery of grammatical rules and their application

c lesson plans for teaching classifications

d lists of oral exercises in synthetic grammar

e lists of written exercises in synthetic grammar

f lesson plans

11 The aims and limitations of intermediate English teaching

III Grammar grades

1 Literature: selections from the literature recommended for the grammar grades

a for the teacher

b for class reading

c for home reading

d records of home reading; their value

e the use of the school and public libraries; how encouraged

2 Oral composition

a continuation of narration, description, exposition and characterization begun in the intermediate grades

b paragraphs based upon material supplied by nature study and agriculture, geography, history and literature

c the combination of paragraphs into simple but complete compositions having "a clear beginning, a related middle and a definite close"

d debates and discussions

e plans for oral compositions

f lists of suitable subjects for oral compositions

3 Written composition

a study of choice selections of description, narration, exposition and characterization and their use as models for original work

b list of suitable short selections of different kinds of composition

c simple compositions based on previous oral work
d compositions based on imagined observations and experiences; suitable topics
e how to secure unity, emphasis and coherence
f business and friendly letters
g compositions in topics from the assigned literature[1]

4 The vocabulary
a how increased
b what grammar grade pupils should learn from the dictionary

5 Drills — to be given as need is disclosed by class work

6 Reading
a the necessity for continuing reading through the grammar grades
b how the aim in grammar grades differs from that in the lower grades
c the value of declamation and of appreciative reading

7 Grammar with textbook
a review of classifications of words, phrases, clauses and sentences
b inflections regular and irregular
c analysis and synthesis of sentences
d correction of common errors
e synonyms

8 Tests
a the use and abuse of written tests
b the value of the regular daily exercises in determining promotion
c the filing and preservation of daily work
d regular written reviews
e the uselessness of teaching for final examination

PHYSIOLOGY AND HYGIENE

In presenting the subject of physiology and hygiene, the aim is to promote good health and thereby insure strong bodies capable of efficient service and enjoyment of life. Hence the teacher needs to emphasize all points bearing on nourishment, care and protection of the body, particularly to instil in the minds of pupils the importance of proper and regular habits of eating, drinking and excreting.

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[1] Paraphrasing should be avoided.

He should seek the cooperation of parents, especially in cases of children who have formed wrong habits. He should also report to parents all cases of poor eyesight, hearing and other physical defects that may be remedied, to the end that boys and girls may grow to maturity, vigorous and well formed.

This outline is arranged to cover the same topics in the same manner as in the Syllabus for Elementary Schools. The time for the work here, however, is so brief that it is not possible to consider all the details but only the important features, which should be emphasized.

A careful consideration of the outline will show that it aims to be consecutive, progressive and constructive throughout the several grades.

I The body

Primary

1 Composition: flesh, bones, blood
2 Functions: moving, breathing, eating and excreting
3 Parts: trunk, arms, legs, stomach, mouth, teeth, lungs, skin, brain, eyes, ears; location and use of each
4 Needs: good food; pure air; pure water
5 Hygiene: eating slowly; chewing thoroughly; care of teeth; care in habits of excretion; cleanliness of hands, face and all parts of the body; frequent bathing; danger from dust; proper clothing; dry clothing; correct position of the body in walking, standing and sitting

Intermediate

1 Review topics for primary grades
2 Structure: cells; tissues; organs
3 Uses of bones, flesh, blood, muscles, joints and tendons
4 Needs: food; pure air and water; exercise and rest
5 Composition of tissues: water, proteids, fat and mineral matter, all supplied by food

Grammar

1 Review topics for primary and intermediate grades
2 Names and functions of the principal bones and muscles; advantages of strong muscles in work and play; tendons and their use; changes in bones as age advances
3 Adaptation of structure to function, e. g. molar teeth; shoulder joint

The human body a living machine

II Foods

Primary

1 Needs for growth and repair; hunger and its cause; cooking; thorough chewing
2 Dangers: overeating; eating at irregular times; washing down food
3 Food specially good for children

Intermediate

1 Review topics for primary grades
2 Composition and uses: water, proteid, starch, sugar, fat and mineral matter
3 Hygienic preparation and preservation: meats, soup, canned goods etc.
4 Necessity for a mixed diet: food suitable for breakfast, for luncheon, for dinner

Grammar

1 Review topics for primary and intermediate grades, and add more detail with reference to the use of nutrients
2 Experiments to test the presence of the various nutrients in foods

III Digestion

Primary

1 Meaning: work of the teeth, mouth and stomach; necessity of getting food into a liquid form; passage of liquid food through the lining of the digestive tube into the blood
2 Digestive fluids: saliva and its use, names of other digestive fluids
3 Care of the teeth

Intermediate

1 Review topics for primary grades
2 Alimentary canal and digestive fluids: saliva, gastric juice, pancreatic juice, intestinal juice and bile; the uses of each
3 Muscles of the stomach and intestines — their action
4 Absorption and assimilation

Grammar

1 Review topics for primary and intermediate grades with fuller discussion of each
2 Experiments to illustrate osmosis and the digestion of foods

3 Adaptation of structure to function in the parts of the alimentary canal

IV Respiration

Primary

1 Organs of breathing: nose, lungs and windpipe

2 Hygiene: best position for breathing; value of deep breathing; harm from tight clothing; dangers from dust; dangers from mouth breathing; need of proper temperature in the room — use of thermometer

Intermediate

1 Review topics for primary grades

2 Organs of breathing more carefully studied; air cells and their functions; change of air in the lungs; oxidation

3 Hygiene: ventilation of rooms; sweeping and dusting; need of moisture, specially in rooms heated by furnace or stoves; danger from use of gas stoves and other stoves without pipes; value of sunlight

Grammar

1 Review topics for primary and intermediate grades, studying them more in detail

2 Experiments to show the nature of oxidation

3 Hygiene: formation of habits of breathing to secure greater lung power; proper methods of ventilating, sweeping and dusting

V The blood and its circulation

Primary

1 Its use in carrying food and air to all parts of the body

2 The heart — simple description

3 The pulse — effect of exercise

Intermediate

1 Review topics for primary grades

2 Blood, arterial and venous compared

3 Organs of circulation: heart, arteries, veins, capillaries

4 Circulation: pulmonary and systemic; significance of the pulse

5 Composition of the blood

Grammar

1 Review topics for primary and intermediate grades with study more in detail

2 Corpuscles, red and white; the function of each

3 The lymph and lymphatic circulation

4 Experiments to show variations of pulse caused by exercise

5 Temperature — when normal; the use of the clinical thermometer

VI Excretion

Primary

1 Need of drinking plenty of water

2 Excretion through the skin; necessity for bathing; use of soap

3 Excretion by the bowels and kidneys; necessity of frequent movements to get rid of the waste matter

4 Toilet rooms: necessity for cleanliness; false modesty in asking direction to a toilet room

Intermediate

1 Review topics for primary grades

2 Skin and kidneys: their structure; value of hot and cold baths

3 Bladder: its location; danger of retention of urine

Grammar

1 Review topics for primary and intermediate grades

2 Skin and kidneys: adaptation of structure to function

3 Water, its free use a preventive of disease

VII Nervous system

Primary

1 Sensation, its importance

2 Brain and spinal cord, their location

3 Nervous system compared with a telegraph system

4 Hygiene: necessity of food, fresh air, sleep and rest

Intermediate

1 Review topics for primary grades

2 Brain and spinal cord — their functions briefly discussed

3 How the brain and spinal cord are protected from injury

Grammar

1 Review topics for primary and intermediate grades with more attention to detail

2 The brain and other nerve centers; sensory and motor regions

3 Sympathetic system and reflex action

4 The brain and mind growth

VIII Special senses

Primary

1 The five ways of getting information

2 Hygiene: care of the eyes, ears and nose; how these are injured; how they are protected; need of calling a specialist; care and culture of the voice

Intermediate

1 Review topics for primary grades

2 The eye and the ear — the parts and the functions of each

3 Diseases: nearsightedness, farsightedness, cross-eye and astigmatism briefly discussed

4 Vocal cords — their structure; change of voice in boys, need of special care of voice at that time; advantages of a good voice

Grammar

1 Review topics for primary and intermediate grades with more attention to details

2 Models — their use; sheep's eye and brain used for illustration

3 Acuteness of senses — how cultivated

IX Narcotics

Primary

1 Danger from using alcoholic drinks, tobacco, tea, coffee and soda water

2 Danger from the cigarette habit

Intermediate

1 Review topics for primary grades

2 Discuss more fully the effects of narcotics and stimulants on the organs of the body and their functions

3 Total abstinence — its value

Grammar

1 Review topics for primary and intermediate grades

2 The insidious growth of the habit of using narcotics and stimulants

X Protection of life

Primary

1 Contagious diseases: common contagious diseases; bacteria; need for quarantine; dangers from common drinking cup, from putting pencils in the mouth; vaccination

2 Consumption: its origin, prevalence, preventive measures; street expectoration

3 Need for cleanliness: yards and streets; dangers from dust; importance of personal cleanliness
4 Cuts, bruises and burns, how treated; danger from slight wounds from nails, knives and from Fourth of July celebrations
5 Poisonous plants
6 Electric wires
7 Escaping gas
8 Rest and exercise: need of out-door exercise and sleep; desirability of boys and girls knowing how to swim

Intermediate

1 Review topics for primary grades
2 Emergencies: how to stop bleeding from an artery and from a vein; production of artificial respiration in cases of asphyxiation
3 Exercise: value of games, walking, riding, skating etc.

Grammar

1 Review topics for primary and grammar grades with more attention to detail
2 Bacteria: their nature and relation to disease
3 Insects and animals that carry disease
4 Sanitation: health officers and their duties; removal of garbage, public movements to prevent the spread of tuberculosis; importance of good water system and good sewage system to a community; parks, playgrounds and baths in cities

Methods

In the primary grades all lessons should be oral and should not exceed 10 minutes.

In the intermediate grades an elementary textbook must be used. Illustrate structure, as far as possible, from the pupil's body. Demonstrations of osmosis and tests for nutrients may be performed by the teacher.

In the seventh and eighth grades a more advanced textbook should be used. Models, also parts of a sheep as the lungs, eye, brain, should be employed to show structure. Experiments to show osmosis etc. and tests for nutrients should be made by the pupils.

The law in regard to teaching the effects of alcohol, narcotics etc. should be carefully observed by giving the number of lessons required for the different grades. Small grades may be combined.

METHODS IN READING, SPELLING AND WRITING

READING

Reading is the beginning of formal education; it is fundamental to the studies of the elementary school, since it is the means of acquiring subsequent knowledge.

Whatever may be the future of the child, he must be taught to read well, otherwise interest in his studies will begin to fail by the time he has finished half of his elementary course. Many pupils in intermediate and grammar grades are considered stupid and unresponsive because they have not been taught to read. The mind of the child of 10 or 12 is not nourished, simply because he has only the 8 year old child's capability of getting knowledge through reading. His imagination is not stirred, his ambition is unaroused. Getting useful information or the thought of a beautiful story is for him too hard a task.

From the first, teachers of training classes should endeavor to impress the fact that the teaching of reading demands resource, variety and patience.

During the first two years, the teacher should have each recitation planned in advance just as carefully as in any other part of the course. She should have an inexhaustible wealth of device ready for use and aim to secure the quickest possible response.

Words should be constantly reviewed and instant recognition should be required. Expression should be secured the first time that children read words forming a sentence.

A pupil in the first year should be taught to read whole sentences fluently and with correct expression. If he begins to hesitate he should not be allowed to continue. Fluent reading of short sentences may be secured by requiring the child to read a sentence to himself and then to give it without looking at his book. However, looking off the book is not necessary.

The same result can well be secured, together with the additional advantage of increasing the quickness of recognition in the following manner: Write a sentence on the board and after giving the children time to prepare the sentence silently, erase it, then require some child to give the sentence orally with the proper expression.

A good drill to secure rapid recognition of words as well as good expression is to place a list of words on the board. While the pupils watch silently, the teacher points quickly in succession to several words that make a sentence. When she has finished

some pupil is required to give the sentence with expression. Pupils may themselves in turn point to words that make a sentence and call on others to read the sentence made. Children should rarely be told words when they are called on to read, but new words should be taught in advance of the reading.

Members of training classes need to be warned that instruction in reading should continue throughout the course. Too often recitations in the fourth and higher grades are merely perfunctory periods of "word naming."

The teacher should take advantage of the child's power of imitation. She should carefully prepare model exercises in expression and read them to her pupils for imitation. Exaggerated expression will do no harm in the lower grades.

After the pupil leaves school, his reading will be almost entirely silent, therefore much practice in silent reading should be given in both the intermediate and grammar grades. The relation existing between the rate of reading and the ability to interpret should also be kept in mind.

In the upper grades emphasis should be placed on appreciative reading. In programs of the seventh and eighth years reading of wide and varied range should be accorded a prominent place. Supplementary reading in connection with history, geography and physiology should not take the place of regular instruction.

Teachers of training classes may well devote attention to common faults in reading. Model recitations should be carefully planned to illustrate all phases of the work.

I **Methods of teaching primary reading**
- 1 Alphabetic method
- 2 Word method
- 3 Sentence method
- 4 Phonic method
- 5 Various combinations of these methods
- 6 The theory and purpose of each method
- 7 Advantages and disadvantages of each method

II **Teaching of primary reading**
- 1 The aim
- 2 The teaching of words
  - *a* objective teaching of words and the steps in the process
  - *b* the teaching of simple sounds — phonograms
  - *c* sight words and blend words

d the use of perception cards and other devices to secure immediate recognition of words

e number of sight words that an average class should know at the end of 10 weeks; at the end of the first term; at the end of the first year

f the use of the blackboard explained; the use of the reader; relative advantages of each

g sight reading

3 The teaching of expression

a the nature of good expression

b its importance in reading

c devices for securing good expression

d the importance of emphasis and inflection

e imitation

f dramatization

4 Common faults in primary reading and their correction

5 The amount of reading that can be well done during the first year; the second year.

6 Reading by the teacher — its purpose

7 The purpose and danger of the use of pictures in reading books

8 The hygiene of reading

a position of the body and holding of the book

b eye fatigue — how prevented: size of type; glazing and color of paper; arrangement of page.

III The teaching of intermediate reading

1 The aim

2 The sources of the material for reading

3 The teacher's preparation of the lesson

4 The pupil's preparation of the lesson

5 Reading aloud and reading silently; the importance of each and its relative value

6 Thought getting — interpretation of what is read — "inner speech"

7 The connection between good reading and knowing how to study

8 Devices for securing interpretation of oral and silent reading

9 Rates of reading

a the purpose of the different rates in oral reading

b comparative ability of fast and slow readers to interpret when they read orally; silently
c the effect of lip movement on rate of silent reading

10 Desirable habits in oral reading
a correct position
b the ability to "look ahead"
c the ability to look up at times
d other habits

11 Common faults in intermediate reading and their correction

12 Diacritical markings
a their names, and the modification of sound produced by their use
b the practical value of such markings
c syllabication — practice in marking words of moderate length
d accent — drill in marking
e the use of the dictionary — when begun
f drill in the use of the dictionary

13 The amount of reading desirable in each of the intermediate grades

14 Reading by the teacher — its purpose

15 Dramatization

IV The teaching of reading in the grammar grades

1 The purpose

2 Appreciative reading; suitable selections

3 The teacher's preparation; the pupil's preparation

4 Speed drills with reference to interpretation

5 The amount of reading desirable

6 The story of the derivation of the language

7 Word study: common prefixes, roots and suffixes; separation of words into prefix, root and suffix; precautions

8 Synonyms
a method and extent of study
b some common synonyms

9 Common faults in the grammar grades, their causes and cure

V The meaning of the following topics of general application and methods of teaching each

1 Emphasis

2 Force and stress

3 Pitch
4 Cadence
5 Tone — kinds
6 Phrasing
7 Correct breathing — its relation to good oral reading
8 Pauses — kinds
9 Articulation
10 Enunciation
11 Inflection

NOTE. Pupil teachers should have practice in marking selections of prose and poetry for phrasing, inflection and emphasis; and should learn by application to various selections the effects of rate, pitch, tone and force.

VI Supplementary reading

1 Distinction between basal and supplementary reading
2 Purposes of each
3 Sources of supplementary reading for (*a*) primary grades, (*b*) intermediate grades, (*c*) grammar grades
4 Reasons for differences in sources in different years
5 Comparative value of using basal reader and other books for supplementary reading
6 Amount of supplementary reading desirable in each part of the course
7 Names of books suitable for supplementary reading in each year [*see* Syllabus for Elementary Schools]

VII Grade libraries

1 The use and purposes of grade libraries
2 Their relation to the general school library
3 The responsibility of the teacher in the care of the library; special duties involved
4 Devices for getting pupils interested in grade libraries
5 Suitable library books for each of the elementary grades
6 Desirable reference books in each of the upper grades (*a*) for the teacher, (*b*) for the pupils
7 Traveling libraries and how they may be obtained

VIII Memory selections

1 Their purpose and extent
2 Methods of memorizing
3 Common errors in manner of oral reproduction
4 Extent to which work of previous years should be reviewed
5 Suitable selections for each year of the elementary course [*see* Syllabus for Elementary Schools]

SPELLING

Training class teachers should bring to the attention of pupils common mistakes made in the teaching of spelling. Much poor spelling is due to the fact that teachers assign too many words to be learned. Too often the words learned mean nothing to the child, and the pupils are not required to use the words in any kind of written work. The rule to be impressed should be: "No lesson so long that it can not be learned perfectly by the class."

Written and oral spelling

The advantages and disadvantages of each

The purpose of combining the two. Relative importance

Spelling in primary grades

1 Method of teaching spelling to beginners. Reason
2 Relation of phonics to spelling
3 Pronunciation of the word. When and why?
4 Visualization. Its meaning and purpose
5 Method of teaching the spelling of homonyms
6 Length of the lesson in each grade
7 Devices to secure interest in spelling
8 Mistakes to be avoided

Spelling in intermediate and in grammar grades

1 The length of the lesson
2 The preparation of the lesson
3 Pronouncing syllables
4 Dictation
5 Rules — their value and limitation
Rules that should be learned and applied
6 Poor spelling — its causes and remedies

NOTE. In cases of abnormally poor spellers the teacher should seek the explanation of defects in sight, hearing or organs of speech.

TRAINING CLASS UNITED STATES HISTORY AND CIVICS

The subject matter of training class history will be based upon the courses for fifth, sixth, seventh and eighth grades as outlined in the Syllabus for Elementary Schools. In connection with the study of this subject matter careful attention should be given to the consideration of effective modern methods of teaching elementary United States history.

The following books will be found helpful:

Wayland. How to Teach American History. Macmillan.
Johnson. Teaching of History. Macmillan.
Mace. Methods in History for Teachers and Students. Rand, McNally

SCHOOL LAW

I Township school system
- 1 School districts
- 2 Town school units
- 3 Town school officials
  - *a* Clerk — duties
  - *b* Treasurer — duties
  - *c* Town board of education — qualifications, duties and powers
- 4 Official relation between town board of education and the district superintendent
- 5 Appointment of janitors, truant officers, medical inspectors, physical training inspectors
  - *a* Their duties
- 6 Qualifications of voters at school district meetings
  (*a*) General; (*b*) special
- 7 Contract districts
- 8 Transfer of pupils
- 9 Transportation of pupils
- 10 School buildings and sites
  - *a* Buildings: (1) Plans and specifications; (2) condemnation; (3) location; (4) approval of plans; (5) repairs of; (6) use of
  - *b* Sites: (1) acquisition of; (2) condemnation of land for
- 11 Schools free to children of town
  - *a* When charge can be made for academic instruction
- 12 When town board can provide free textbooks
- 13 Tax budget
  - *a* When and by whom made
  - *b* How many made
  - *c* What it must contain
- 14 Assessment and collection of taxes
- 15 Custodians of school records, books and other district property
- 16 Annual school meeting
  (*a*) When held; (*b*) appointment of inspectors; (*c*) method of conducting; (*d*) voters
- 17 Textbooks — how adopted

II Town and county officers
- 1 School duties of (*a*) supervisor; (*b*) town clerk; (*c*) county treasurer

III District Superintendent
- 1 Qualifications
- 2 Election
- 3 Term
- 4 Salary
- 5 Vacancy
- 6 Powers and duties

IV School directors
- 1 Number in each town
- 2 Election
- 3 Term
- 4 Duties

V Education Department
- 1 Board of Regents
  - (*a*) Number; (*b*) how chosen; (*c*) term; (*d*) powers and duties
- 2 Commissioner of Education
  - (*a*) How chosen; (*b*) term; (*c*) salary; (*d*) powers and duties
- 3 Organization of Education Department

VI School taxes
- 1 How authorized
- 2 By whom assessed
- 3 Tax list
- 4 Property exempt from taxes
- 5 Collection

VII School moneys
- 1 Quotas and amounts — supervision, district, teachers, academic
- 2 Condition on which each is appropriated
- 3 Apportionment for books, maps, pictures and apparatus
- 4 Withholding moneys

VIII Textbooks
- 1 How adopted
- 2 How changed
- 3 Penalty for violating the law

IX Teachers
- 1 Required age
- 2 Licenses
  - *a* Normal school diploma
  - *b* State certificate
  - *c* Training class certificate

d Training school certificate
e Rural school renewable certificate
f College graduate certificate
g Kindergarten certificate
h Temporary license
3 Statutory requirements for these certificates
4 Indorsement of certificates
5 Payment of unqualified teachers
6 Revocation of certificates
(*a*) Causes; (*b*) by what authorities
7 Causes for dismissal
8 By whom employed
9 Contract with relatives
10 Essentials for a legal contract
11 When compensation is due
12 How teachers are paid
13 Verification of records
14 Hours of teaching
15 Closing school
16 Contract for hiring
17 Authority over pupils
18 Suspension of pupils
19 Expulsion of pupils
20 Infliction of corporal punishment
21 Record of attendance
22 Payment when school is closed
23 Pensions

X **Compulsory education law**
1 Required attendance
2 Required instruction
3 Attendance officers — by whom appointed and duties
4 Evening schools
5 Record certificates
6 Employment certificates
7 Penalty for unlawful employment
8 Penalty for noninforcement of law
9 Arrest of truants
10 Truant schools
11 School register — how kept
12 Length of school year

XI Other special laws
- 1 Arbor Day
- 2 Flag law
- 3 Fire drills
- 4 Physiology law
- 5 Holidays
- 6 Fire escapes
- 7 Medical inspection
- 8 Vaccination law
- 9 Health and decency act

XII Courses of study
- 1 What subjects must be included
- 2 What subjects may be included
- 3 Authority to adopt

NATURE STUDY AND AGRICULTURE

In nature study and agriculture no separate syllabus is proposed for training classes, but they will use the outline in the Syllabus for Elementary Schools, to which they are referred. There the work is laid out for the five years 1910–15. The training classes will confine themselves, however, to the outline for the year in which the training class is held and the two succeeding years; but the classes in 1917–18 will prepare on the outlines for 1912–13, 1913–14 and 1914–15.

DRAWING AND HANDWORK

The following syllabus in drawing and handwork presents in more definite form that subject matter in the Syllabus for Elementary Schools which is essential to the work of the training classes and rural schools. It includes in addition a simplified outline, suggestive methods and time arrangements and lists of pictures for picture study with firms which publish the inexpensive prints.

This syllabus supplements the Syllabus for Elementary Schools for the limited time now devoted to drawing in the training classes, and forms the basis for all training class examinations. The general nature and scope of the Syllabus for Elementary Schools should, at the same time, be clearly understood by each pupil. It also serves as a supplement to the Elementary Drawing Syllabus for rural schools.

TRAINING CLASS NOTES

Recitations. Each regular recitation in drawing presupposes on the part of the training class pupil preparation of outside work definitely assigned by the teacher.

The recitation should present methods of teaching drawing in the rural school and should review the theory and practice gained in high school. Principles should be emphasized. The special aims in the work of each grade and the close relationship between drawing and other subjects should be made clear.

The following is suggested as a minimum arrangement for time and subject in the recitation work:

SUBJECTS	PERIODS	
Representation		
Primary illustration	3	14
Perspective of objects and plant forms	11	
Design		
Decoration, primary	5	14
Design	7	
Lettering	2	
Mechanical		
Working drawings	6	8
Patterns	2	
Picture study		4
Total		40

Correlation.[1] Teachers of training classes will find the allotted time short, but it very often happens that drawing is the best means of presenting and studying other subjects. If proper correlation is carefully emphasized, time for additional drawing of the most vital kind will be found. The following suggestions indicate how this may be done:

Map drawing, enlarging and reducing to proportion, should be taught as part of the work in *geography* and *history*.

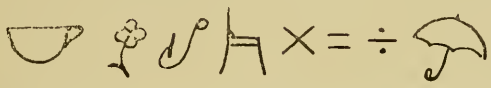
Design in relation to furnishing, color and decoration of walls and curtains, arrangement of materials, honor rolls, etc., is to be considered as part of *school management*. See pages 18, 19.

Design for charts to record weather and crop conditions, migration of birds, etc., as well as *representation of facts of growth* of

[1] See page 61.

nature forms should be studied in connection with *nature study*. See page 43.

Drawing of simple symbols should be used with primary arithmetic



Picture study should be used to advantage for descriptive work in either oral or written *English*.

Methods of study for training class. In studying drawing it is well for the training class to follow the plan of work in the Syllabus for Elementary Schools, beginning with primary and working up through intermediate and grammar grades, studying subject matter as may be necessary in connection with methods of presenting the subject. In all phases of drawing, notebook work and collections (see plate 6) are of the utmost importance in giving the pupils some insight into the possibilities of extending the work beyond the few examples they will have time to work out while in class. The class drawings should be made large enough to be seen across an ordinary schoolroom, and should be carefully preserved for use when the pupil is called upon to teach the subject.

Each pupil should include in the notebook pages of clippings illustrating the principles of representation and design and supplement this by pages of small sketches showing patterns and working drawings of objects suitable for construction in a rural school. This may properly be related to design for holiday gifts, souvenirs, games, well-arranged schoolrooms and grounds, consideration being given to the application of a few fundamental principles to the general management of the school as well as to the study of specific grade problems.

Much time can be saved in this work if each training class pupil will draw one or more sheets illustrating a given topic such as pattern for holiday gifts or working drawings of construction problems such as plant boxes, shelves, benches etc., to be printed on the class hectograph for exchange with the rest of the class.

Training class pupils should have practice in making such drawings in preference to spending all the allotted time in attempting to acquire skill in the use of instruments. It is suggested, however, that some practice be given in problems involving the use of compass and ruler.

Work in mechanical drawing and construction in the training class is facilitated by the use of cross-section paper for sketching notes.

Because of the limited time it may not be advisable to construct more than two or three objects accurately from mechanical drawings. For the same reason only a limited number of accurate drawings can be made, though reference material and notes should be abundant.

Picture study. Pupils should have available the inexpensive prints of pictures selected for study.

It is best for each one to provide herself with these prints so that she may mount and annotate them in readiness for teaching. If it is impossible to secure all, a selection should be made including some from each grade.

One recitation, at least, should be devoted to methods of presenting picture study in ways suited to the various stages of the child's development.

Many helpful suggestions along this line may be found in the School Arts Book for October 1909 and the School Arts Magazine for October 1913, as well as in the books listed under picture study for the grades.

A few changes from the Syllabus for Elementary Schools will be noted. It seemed advisable to place one American painter in each grade. Therefore a few pictures are rearranged. In only one instance is a new picture substituted. "Lessons in Boat Building" by Bacon, is inserted in place of "The Oath of Knighthood" by Abbey in grade 5.

SIMPLIFIED OUTLINE FOR TRAINING CLASSES AND RURAL SCHOOLS

Outline for grades 1–4

General subjects: *Illustration. Decoration. Color*

1 *Topics*
- *a* Illustration: Special days, occupations, games, stories
- *b* Decoration: Christmas booklet, valentine, bookmark, Easter card, calendar etc., simple lettering
- *c* Color: Use of hues in design problems
- *d* Picture study

2 *Mediums*
- *a* Pencil
- *b* Colored crayon
- *c* Chalk and blackboard

3 *Practice*
- *a* Single objects in flat (elevation)
- *b* Composition — grouping
- *c* Given units for design motifs to be used with reference to space arrangement and application; single letters or words considered as hints in design
- *d* Matching of hues

4 *Aim*
- *a* Facility of expression
- *b* Good proportion
- *c* Order in spacing and arrangement
- *d* The ability to recognize in each grade six pictures and to tell who painted them
- *e* The ability to distinguish and match hues.

Explanation. By the term "Illustration" is meant picture making as a means of expression, not formal representation. It will be noted that perspective is not called for in these grades.

By "Decoration" is meant the simple arrangement called for in such a problem as the booklet, requiring the spacing of a few letters and a decorative motif copied for the purpose. There need be no attempt at original designing.

Outline for grades 5–6

General subjects: *Representation. Design. Color. Maps*

1 *Topics*
- *a* Representation: Nature and object drawing
- *b* Design and color: Booklets, cards, calendars, mats, doilies etc., use of hues and values in connection with design, simple lettering in single line
- *c* Maps: Simple maps
- *d* Picture study

2 *Medium*
- *a* Pencil
- *b* Crayon
- *c* Blackboard

3 *Practice*
- *a* Single objects in flat (elevation) and parallel perspective
- *b* Nature in mass, outline and suggested color
- *c* Original design motifs drawn on squared paper in black and white and color
- *d* Pencil maps with or without quiet flat color

4 *Aim*

a Truth in observation

b Continued facility in expression

c Simple original decoration with application

d The ability to recognize in each grade six pictures and to tell who painted them

e Ability to distinguish at least two values of each color

Explanation. Drawing as pure "Representation" begins in this simplified outline with the fifth grade and in object drawing proceeds only as far as parallel perspective. In these grades, "Decoration" becomes "Design" so far as the adaptation of a nature or geometric form on squared paper will allow.

Teachers should continually drill on the work of the previous grades which is easily correlated with the requirements for the fifth and sixth.

Outline for grades 7–8

General subjects: *Drawing. Design. Color*

1 *Topics*

a Drawing: Representation of nature and objects, mechanical drawing, science drawing, map drawing

b Design and color: School booklets, posters etc., problems relating directly to the home — the "Home Center," discriminating use of color, hue, value and chroma *applied* to the foregoing

c Simple gothic or single line letters (see plate 5)

2 *Mediums*

All and any mediums applicable to the work in hand

3 *Practice*

a Objects drawn in any position
in crayon, pencil or chalk

b Drawing for all purposes that is, nature study, geography etc.,

c Design applied to school and home problems to include lettering

d Color matching — mixing and application

4 *Aim*

a A knowledge of the various methods of expression by means of drawing

b A knowledge of the fundamental design principles with definite application to practical problems and a discriminating color sense

Explanation. "Representation" gives way to "Drawing" in the seventh grade, for now the pupil should draw free-hand or by mechanical means, as the problem demands.

Design is but another means of drawing and centers about the home. At the end of the eighth grade, pupils should be able to understand the use of the pencil and crayon and such materials as are necessary for the more simple constructive problems adaptable in schoolrooms. A high grade of technical skill is not expected but intelligent and efficient workers should be developed.

SUGGESTIVE METHODS AND TIME ARRANGEMENTS

General methods. Many teachers in rural schools are uncertain *what* to work for, and because of the crowded program do not quite know how to plan for all the classes.

For these teachers, as well as for the training class pupils, the following suggestions are made as to methods of working:

It is the limited time rather than any want of material or lack of willingness to work on the part of teachers or pupils that causes difficulty. This difficulty *seems* worse than it really is and can be largely overcome in two ways. First, by concentrating interest and strength in doing a *few* things *well;* second, by grouping the various forms of drawing about a common interest and connecting that interest with other subjects, such as geography, nature study, English, home life, games etc. This is further illustrated by the suggested outlines for different months which also show how different lines of drawing should be emphasized at the times of year when the child's natural interest is most readily aroused. The second method is by organizing the school in such a way that all may have a similar drawing lesson at the same time but of varying degrees of difficulty adapted to the child's ability.

This may be accomplished by

1 *Seating in groups* — Primary, intermediate, grammar.

2 *Placing specimens,* models etc., where they can be plainly seen by the group using them.

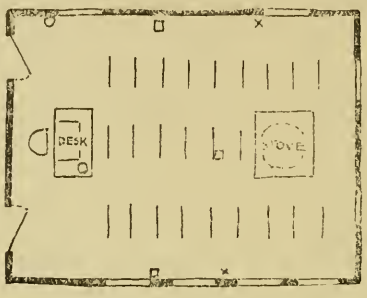
3 *Planning similar work* with varying degrees of difficulty for each group.

4 *Stating aim* of lesson clearly to each group at beginning of lesson and giving a *few definite* directions.

5 *Placing directions for design* for the different groups on separate blackboard spaces.

6 Using a *regular method* to distribute, collect and care for material, thus avoiding confusion and waste of time.

Example. In planning a lesson in drawing in connection with nature study *in the primary grades,* single simple *specimens* should



o Grades I–IV
□ Grades V–VI
× Grades VII VIII

be selected for the children to see and they should draw the *general shape* and *color,* getting the *general proportions* of *length* and *breadth. Grades 5 and 6* should work from specimens with two or three parts, studying the *general proportions of each* and their *relation* to each other, and making a truthful record of general structure, direction of growth, shape of stem, size of leaf compared with fruit or blossom, etc.

Grades 7 and 8 should have somewhat more complex and difficult problems to be studied for (*a*) the proportion of parts in relation to the whole, (*b*) the structure of the parts, (*c*) characteristics of the specimen, (*d*) technic.

Correlation. Drawing lends itself readily to many other subjects in the curriculum. The following suggestions indicate how this may be done.

Map drawing, enlarging and reducing to proportion, should be taught as part of the work in geography and history.

Design for charts to record weather and crop conditions, immigration of birds, etc., as well as representation of facts of growth of nature forms, should be studied in connection with nature study.

Drawing simple forms should be used with primary arithmetic.

Design and mechanical drawing should be so vitally connected with home and social interest that the work started in school may be completed outside to the benefit of the community.

For further suggestions on correlation, see notes under Picture Study, page 61.

Topical outlines. In arranging the work by topics teachers should avoid too much variety. One lesson should easily lead to another and a carefully arranged and graded sequence from one subject to the next should be apparent. Greater efficiency may be gained by uniting the work in some such way as follows:

October — Topic: Harvest

Representation, Seeing, Color

Grades 1-4	Grades 5-6	Grades 7-8
Picture study	*Picture study*	*Picture study*
Can't You Talk	The Gleaners	The Hay Maker
Escaped Cow	Horse Fair	Water Carrier
Draw in color	*Color or pencil*	*Pencil with optional color*
apple or pear	group 2 apples	apple branch
grape leaf	grape leaf on vine	cluster of grapes on vine
oak leaf	acorns on twig	oak branch with acorns
carrot or beet	beet with leaves	cross-section of apple
pumpkin, 2 colors	pumpkin, match hues and values	cross-sections of squash or cucumber
Jack-o'-lanterns	Hallowe'en cards	Hallowe'en cards

November — Topic: Harvest Preparation for Winter

Representation, Design, Planning

Grades 1-4	Grades 5-6	Grades 7-8
Picture study	*Picture study*	*Picture study*
The Children of the Shell	The Shepherdess	The Mill
Shepherd and His Flock	Puritans Watching for Relief Ships	Pilgrims Going to Church
Draw in color	*Color or pencil*	*Pencil*
rose hips	woodbine	woodbine or bittersweet
any vegetable	bittersweet	cross-section of fruit
letter harvest and name, to be used on folder for work	cross-section of fruit	letter labels for use at home or in school
	letter nature study folder for work	

Start Christmas gifts; collect clippings for suggestions; choice as to problem correlated with arithmetic in measuring and counting for patterns.

cross-stitch holders, needlebook,	cross-stitch bags, aprons, holders, cushions etc.	whittle paper knife, key-rack, sew collars, needlebook, apron

December

Construction, Design, Gifts, Giving

Grades 1-4	Grades 5-6	Grades 7-8
Picture study	*Picture study*	*Picture study*
Sistine Madonna	The Holy Family	Golden Stairs
Madonna of the Chair	Arrival of the Shepherds	Madonna of the Shop

Study of patterns and working drawings for objects to be made for gift. Decoration derived from nature forms, berries etc. used as rosettes and borders.

pin tray (plinth)
candy box (cube)
cornucopia (cone)
stars
calendar
string seeds, cones etc. for garlands
candy boxes (square and hexagonal prism)
candle slide (cone)
pincushion with rosette from nature (cylinders on prism forms)
sewing basket
waste basket (frustum of pyramid, square or hexagonal)
toothbrush rack
key rack

Collections of clippings are almost indispensable.

January

Appearance, proportions of objects

Grades 1-4	Grades 5-6	Grades 7-8
Picture study	*Picture study*	*Picture study*
Little Samuel	Reading from Homer	William II of Nassau
Pied Piper	Sir Galahad	Fighting Temeraire
Two dimensions	*Three dimensions mass or silhouette*	*Details of construction, proportion of parts, study circles*
straight line figure to illustrate stories	toys, involving circles, that is drum, cart etc.	bowl
objects involved drawn flat or in silhouette	cup	pail
	bowl	bottle
	pail	plant jar
		clock face

From the fifth on objects of similar shape related to history or geography brought from foreign lands. Lettering folder or booklet cover to contain drawings of objects.

Materials. Training class pupils and rural teachers should have some idea of substituting, when necessary, available materials in place of those generally used, such as follows:

For colored beads use
- pine cones
- straws
- pumpkin seeds
- sunflower seeds
- mountain ash berries
- black alder berries
- rose hips

For colored paper use
- plain wall papers
- paper colored with crayons or dyes

For manila or white paper use
- unprinted newspaper
- wall papers
- wrapping papers

For looms use	tablet backs, pierced chalk boxes, etc.
For raffia use	pine needles rushes straw rags yarn
For sewing use	checked gingham unbleached muslin scraps from piece bags

When once the children's interest is aroused in making things, they will find unexpected resources in such materials as spools, cigar boxes, shingles and various odds and ends sometimes put in piece bags or attic. These can be used to advantage outside of school hours for constructive illustration or toy making.

REPRESENTATION

Aim. The aim of the work in representation varies in the different grades. It should show progress with the development of the child, from the simplest form of general proportion in the primary illustration to the careful, accurate representation of facts and appearances in the eighth grade.

Grades 1–4. (Illustration). The training class pupils and primary teacher should understand that a little child sees things in mass and has neither the mental nor muscular development to make drawings involving fine detail.

It is necessary for a child to gain new impressions, constantly to add to and sharpen his mental images, and the expression of his thought, either by language or drawing, increases his power of perception. It is for this reason that illustration of familiar events and stories is introduced as the first form of representation, utilizing the knowledge the child has gained before entering school as a basis for his training in observation and expression.

Centers. It is well to center the drawing about various groups of interest.

In planning these centers, it should be the aim to lead the children gradually from the well-known images of home life and environment to less familiar subjects, so that in every topic there may be all possible points of familiarity.

The following is a suggestive sequence:

1 Recent or familiar events of interest

2 Familiar nursery stories
3 Familiar occupations
4 Familiar games
5 Games and occupations of foreign children

As centers for constructive illustration the following are suggested:

1 The farm or life of today.

2 The Pilgrims or early settlers. A simple form of civilized home life.

3 The Eskimos. Primitive life under winter conditions, with simple constructive forms whose purpose may be readily comprehended.

4 The Indians. Savage or barbarous life with higher forms of utensils calling for more thought and manual skill in the construction.

5 Foreign homes, namely, Japanese, Dutch etc., necessitating more advanced knowledge of climate, country, architecture and costumes gained from geography and reading.

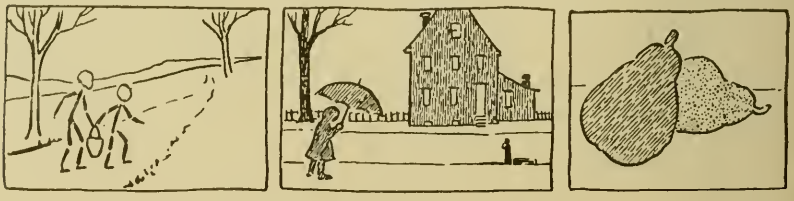
Methods and study. Study of action and objects should precede free illustration.

The drawings should be simply records of *general proportions* in two dimensions, height and width, with no attempt at showing depth.

The view chosen should be one that shows the most *characteristic shape.*

In *nature drawing* the general action and direction of growth should be indicated in a simple way.

Perspective should be developed only as far as the making of objects in the distance, smaller and nearer the eye level, or "higher on the paper," as the children say. This is brought out in the setting for illustrations as in landscape backgrounds and when, as in paper cutting, one object is placed over another to bring it in front.



Mediums. Considering the little child's mental habit of seeing the larger masses of form and color and the fact that only the larger muscles of his hands are developed, those materials best suited to mass drawing should be used. Such materials are colored crayon which may be used with paper or blackboard, and paper for cutting, tearing or folding. Owing to the greater expense of water color this medium, though excellent, is not required.

Grades 5 and 6. (Representation). (See plate 1) In the fifth and sixth grades the *aim* of work is more advanced, calling for greater facility in expression, closer observation and more truthful representation of facts. Objects are studied not only as a whole but in part. More attention is given to details and to the relation of parts.

In representing *plant forms* the branching and foreshortened appearance of simple leaves and blossoms are studied. Greater distinction is made in the shape and color markings of plants, birds, insects and animals.

Object drawing is begun in these grades. This means the study of the representation of foreshortened circular surfaces and simple objects in parallel perspective.

Methods and study. (See plate 2) Pupils should study in both natural forms and objects the *foreshortened appearance* of circles turned at angles, above or below the eye level. The relation of axis to ellipse in cones and cylinders should be mastered and the fact that nearly all flower forms are based on the cone should be noted.

The effect of *concentric circles* is the same in dish or flower and this should be made plain in the study of work for the intermediate grades. It should be further noted that the distance from front to back changes in such cases and that the space between the ends of the ellipses does not vary.

Leaf forms are in general based on triangles and the observation of this fact is a help in representing their appearance.

The *grouping* or *placing* of one object farther back than another and the avoidance of the appearance of both being in the same space at the same time, should be thoroughly mastered. This can be done by thinking back of an object. The difficulty comes in translating the three-dimensioned solid to a two-dimensioned drawing. Placing straws or lines between the objects studied to show where the bases come is sometimes helpful. (See plate 3)

Parallel perspective can be approached through a study of pictures found in advertisements, post cards, etc. It should be followed by work and study from a few large models such as boxes, dictionary-shelves etc. placed *directly in front* of the pupil and also by making drawings to show the eye level when a front view is given.

Some attention should be given to *composition* with relation to background and foreground spaces, which should be unequal for the sake of interest through variety. Balance should also be considered.

Mediums. In these grades greater attention to detail calls for a medium which will lend itself to the more careful outline drawing. The pencil supplemented by the colored crayon or brush for filling large spaces or suggesting the color should be used.

Grades 7 and 8. (Drawing). In these grades representation takes two forms. One shows the appearance of objects, accenting points of greatest interest, leaving the rest subordinate, and suggesting the effects of light and distance. The other gives accurate statements of structural facts in connection with nature study, biology etc. The first is pictorial, the second is scientific, but both call for accurate observation. More attention should be given to technic, composition and study of the characteristics of the particular object in view. (See plate 4)

Methods and study. At this time some simple groups involving angular perspective should be drawn and the fact that in the same group all receding lines converge at one eye level should be impressed on the minds of the pupils.

Mediums. The mediums used should vary with the intention of the drawing — soft pencil, pen, brush or crayon for the free perspective, fine pencil outlines with possibly flat washes of color for the biological work.

DESIGN

Aim. The study of design should continually train and stimulate judgment and appreciation for the best in everything. The boys and girls should be led to see how the principles of design which

they study are simply following nature's laws of arrangement. That, for example, rosettes (radiation from a central point) may be found in flower tops, fruit sections, snowflakes, as well as in decorations for architecture or furnishings. The same laws govern all forms so that the best results can never be obtained without constantly striving for order, fitness to purpose and harmony, or fitness to surroundings in dress, room furnishing, arrangement of materials and lesson papers in all subjects.

Methods and study. It should be made clear that beauty does not depend upon the expenditure of money but of thought and it is the *teacher's* business to bring this element into her work by trying to have things neat, orderly and suitable.

Pupils should be encouraged to make well-written and well-spaced lesson papers and to have orderly arrangement in caring for collections and materials.

Notes should be made and *collections* of clippings gathered from many sources: magazines, catalogs and advertisements furnish abundant material for studying balance, rhythm, repetition in bilateral figures, borders and surface patterns and also offer a wealth of suggestion for design of various kinds.

The *special problem* should be adapted to the grade where it is to be studied and it should be closely defined and limited. Too great freedom confuses the pupil's mind. For instance, in planning booklet covers, state the size of the cover for the work inclosed. Give choice of not more than two or three general arrangements of spaces to contain title, name of pupil and decoration. Titles and names should always be well printed. The decoration should be suited to the subject, and it is for the teacher to guide by suggesting such symbols or bits of ornament and see that they are well spaced by the pupils. These examples should be given to children. In the primary grades the teacher should confine the pupil to copy and choice in arrangement; more advanced grades may use the examples set before them as suggestions, altering, adapting and making their own as occasion and ability allow.

In planning for problems to be worked out in rural schools, the limited equipment should be kept in mind and choice made of those which serve a useful purpose and meet a need in the child's life.

The following are suggested: (See also plates 7–8–9)

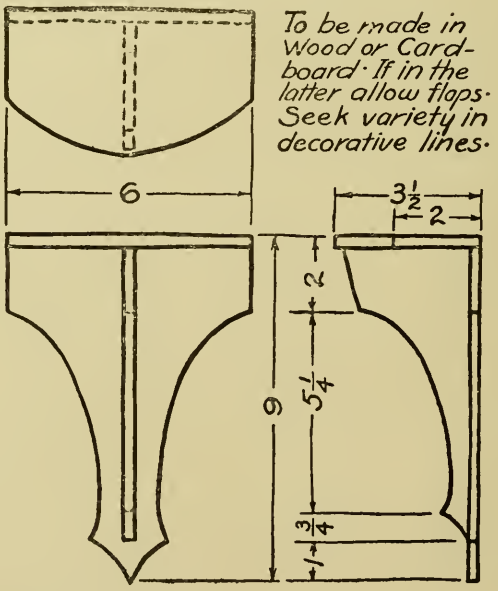
- Booklet covers or portfolios in which to keep work selected because of excellence or to show progress through the year
- Desk blotters (of a useful size)
- Seed envelops
- Nature study charts
- Programs and invitations to school entertainments
- Boxes

May baskets
Valentines
Bird houses
Bags, holders etc., decorated by cross-stitch or stenciling
Toys
Useful articles for home or school
Planning and beautifying the school grounds
Arranging and beautifying the schoolroom
Planning designs and decorations for special festivities at church, home or school
Designing equipment for games, such as ring toss, to be used on the school grounds or at home

These are all vital and fascinating problems in design and might with profit occupy much of the time devoted to more formal drawing, for they involve in their planning the same principles and theories, and furthermore offer practical and worthy outlets for application.

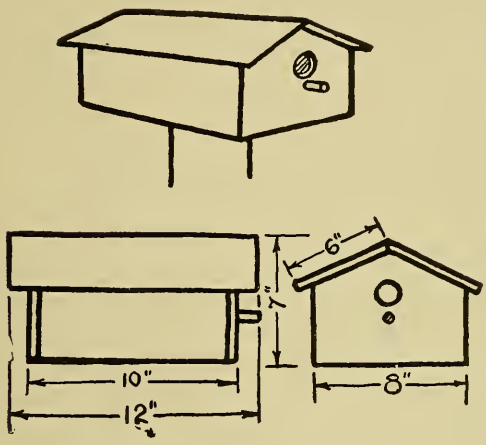
By such correlation pupils may be led to take a personal pride in the community life. For example, Old home week or a holiday occasion may offer opportunities for decorative invitations or souvenir cards for mailing or for use as place cards; church services or festivals may offer occasion for flower decoration or for local announcements. The school, the home and the town through such practical attention take on new aspects and exist for more than their names alone.

MECHANICAL DRAWING



Working drawings. *Working drawings* are statements of facts as to size, form and structure.

The *equipment* found in a rural school rarely permits these drawings to be made accurately by the use of instruments, but the facts can be stated by means of free-hand or ruled drawings made to scale.



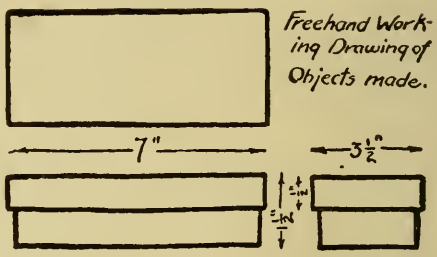
In allotting problems for boys, selection should be made among those of most interest to the rural community, such as hen-coops, bird houses, benches, boxes and crates, shelves, cold frames, seed testers, playground equipment, etc.

For example, in the simple equipment needed for ring toss (a game similar to quoits) the primary and intermediate boys cooperate to make the different parts. The smaller boys calculate the required circumference in length of rope needed when bound into rings and then make the rings. The slightly older boys draw and make the square plinth with peg in the center at which the rings are thrown. Older boys can draw and make frames for scoring skill in throwing beanbags. These frames should be planned with square openings at the center, right, left, above and below.

Patterns. (See plate 9) The making of patterns should be closely connected with design and should include such articles as are possible to construct with the equipment available in the rural school.

Following are a list of the types of problems which should be considered:

Slip book covers
Waste baskets
Sewing baskets
May baskets
Envelops
Cornucopias
Work aprons
Boxes



Cardboard houses and furnishings to illustrate lives of Indians, Pilgrims, people of other lands, occupations etc.

PICTURE STUDY

A few changes from the Syllabus for Elementary Schools will be noted. It seemed advisable to place one American painter in each grade. Therefore a few pictures are rearranged. In only one case is a new picture substituted. "Lessons in Boat Building" by Bacon is inserted in place of "The Oath of Knighthood" by Abby in grade 5. It was found impossible to obtain the latter in the inexpensive print.

In view of the fact that each year so many teachers and pupils from all parts of the State have the opportunity to visit the Metropolitan Museum in New York it seems best to add supplementary lists of original masterpieces by the same artists. These follow the required pictures for each grade.

Graded study

Elementary grades, 1–4

Study picture for chief characteristics so pupil will be able to recognize it if seen again. *Learn* name of artist and picture. *Conversation:* Lead children to tell what they see and to see things worth telling.

Intermediate grades, 5–6

Study picture for chief characteristics of composition. Study *story* in connection with it, artist's name and nationality.

Grammar grades, 7–8

Study picture for chief elements of beauty, color (if possible), line, mass, value in composition. Study *story* in connection with it, sentiment expressed, artist's name, nationality, the time of day and year.

Correlation

Correlate with English by writing compositions or by oral descriptions of chief characteristics of pictures and facts regarding artists.

Correlate with handwork by making up a small booklet with well-designed and well-lettered cover, well-written and finely spaced compositions and containing small, mounted pictures.

PICTURES

Grade 1

Madonna of the Chair. *Raphael.* Elson 10c. Perry. Thompson. University. Brown

The Age of Innocence. *Reynolds.* Perry. Thompson. Turner. Brown

Children of the Shell. *Murillo.* Elson 10c. Perry. Turner. Prang. Brown

Feeding Her Birds. *Millet.* Elson 10c. Perry. Thompson. Turner. Prang. Brown

The First Step. *Millet.* Perry. Thompson. Turner. Prang. Brown

Hiawatha. *Norris.* Elson 10c. Turner

In the Metropolitan Museum

The Knitting Lesson. *Millet*

Infancy, also called Master Hare. *Reynolds*

St John. *Murillo*

Grade 2

Return to the Farm. *Troyon.* Perry. Prang. Brown

The Divine Shepherd. *Murillo.* Perry. Brown

Mother and Child. *Toulmouche.* Soule 25c. Turner

The Drinking Trough. *Dupré.* Turner. Prang

Interior of a Cottage. *Israels.* Elson 10c

Can't You Talk. *Holmes.* Perry. Turner. Brown

In the Metropolitan Museum

On the Road. *Troyon*

Bashful Suitor. *Israels*

Shepherd Boy. *Dupré*

The Hay Wagon. *Dupré*

Holland Cattle. *Troyon*

Grade 3

The Balloon. *Dupré.* Perry, Turner. Brown
Potato Planting. *Millet.* Perry. Brown
Penelope Boothby. *Reynolds.* Perry. Brown
Little Samuel. *Reynolds.* Perry. Thompson. Brown
Shepherd and His Flock. *Bonheur.* Turner
Caritas (Charity). *Thayer.* Copley 50c. Perry. Brown.
In the Metropolitan Museum
Flock of Sheep. *Bonheur*
Weaning the Calves. *Bonheur*
Two Sisters. *Bouguereau*

Grade 4

The Escaped Cow. *Dupré.* Perry. Brown
Arrival of the Shepherds. *Lerolle.* Perry. Turner.
A Helping Hand. *Renouf.* Perry. Turner. Brown
Sistine Madonna. *Raphael.* Elson 10c. Perry. Thompson. University. Prang. Brown.
Pied Piper of Hamelin. *Kaulbach.* Turner.
Little Rose. *Whistler.* Elson 10c. Copley
In the Metropolitan Museum
Connie Gilchrist. *Whistler.*

Grade 5

The Shepherdess. *Lerolle.* Perry. Turner. Prang. Brown
End of Day. *Adan.* Perry. Turner.
Autumn. *Mauve.* Elson. Perry. Turner. Prang. Metropolitan
Song of the Lark. *Breton.* Brown. Perry. Prang. Turner. Elson. Thompson.
The Gleaners. *Millet.* Elson. Perry. Turner. Prang. Brown
Lessons in Boat Building. *Bacon.* Perry. Brown
In the Metropolitan Museum
Autumn. *Mauve*
Religious Procession in Brittany. *Breton*
Peasant Girl Knitting. *Breton.*
The Water Carrier. *Millet*

Grade 6

Sir Galahad. *Watts.* Elson. Perry. Prang. Brown
The Sower. *Millet.* Perry. Brown
The Horse Fair. *Bonheur.* Perry. Prang. Brown

Puritans Watching for Relief Ships (Pilgrim Exiles). *Boughton.* Perry. Turner. Brown
Reading from Homer. *Alma-Tadema.* Perry. Turner. Prang
Fog Warning. *Homer.* Elson. Turner
In the Metropolitan Museum
The Sower. *Millet*
The Horse Fair. *Bonheur*
A Puritan Girl. *Boughton*
Edict of William the Testy. *Boughton*
The Picture Gallery. *Alma-Tadema*
A Roman Garden. *Alma-Tadema*
The Gulf Stream. Homer

Grade 7

Fighting Temeraire. *Turner.* Elson. Perry. Thompson. Turner. Prang. Brown
Golden Stairs. *Burne-Jones.* Elson. Perry. Turner. Prang. Brown
Water Gate. *Van Marcke.* Elson. Turner.
William II of Nassau. *Van Dyke.* Perry. Brown
Spring. *Corot.* Perry. Thompson
Shaw Memorial. *St Gaudens.* Thompson

In the Metropolitan Museum
The Grand Canal, Venice. *Turner*
James Stuart, Duke of Lennox. *Van Dyke*
Classical Landscape. *Corot*

Grade 8

Water Carrier. *Millet.* Perry. Brown
Temperance. *Burne-Jones.* Perry. Brown
The Mill. *Rembrandt.* Perry. Prang. Brown
Madonna of the Shop. *Dagnan-Bouveret.* Perry. Thompson. Brown
The Haymaker. *Adan.* Perry. Brown
Pot of Basil. *Alexander.* Turner

In the Metropolitan Museum
The Water Carrier. *Millet*
Portrait of Man in Hat. *Rembrandt*
Madonna of the Rose. *Dagnan-Bouveret*
The Ring. *Alexander*

Reference material may be found in the School Arts Book, school magazines, Picture Study for Elementary Schools, by Mrs L. L. Wilson (Macmillan), Stories of American Painting, by Charles H. Caffin (Frederick S. Stokes), Picture Study Leaflets (Horace K. Turner), How to Show Pictures to Children, by Estelle Huree (Houghton, Mifflin Co.), A Child's Guide to Pictures, by Charles Caffin (Baker and Taylor), How to Study Pictures, by Charles Caffin (Century), How to Enjoy Pictures, by M. L. Emory (Prang Co.), Young Peoples Story of Art, by Ida Whitcomb (Dodd, Mead Co.). In addition, the State has much valuable reference material for use in the schools, which may be borrowed through the traveling libraries.

Prints may be obtained for one cent each from the following firms:

Horace K. Turner, Oak Hill, Newton Center, Boston, Mass.
Perry Picture Company, Malden, Mass.
Brown Picture Co., Beverly, Mass. ....
Elson Company, Oliver street, Boston, Mass.
Thompson Company, Washington street, Syracuse, N. Y.

Other firms listed are as follows:

Cosmos Picture Co., 25th st., New York City.
Bureau of University Travel, Trinity place, Boston, Mass. (University prints).
The Prang Co., Knickerbocker Trust building, New York City.
Curtis & Cameron, Pierce building, Boston, Mass. (Copley prints).

Prints ranging from two for 5 cents to 5 cents apiece:

The Detroit Publishing Company
The Metropolitan Museum publishes many of its pictures in post card size

COLOR

In the rural schools there is no time for a study of color theory. A few color terms such as hue, value and chroma should be understood and used.

It is most essential that color be *freely used* in *harmonious* relations. This may perhaps be best accomplished in training classes and rural schools by noting nature's use of color and following her example. Soft grayed violets, blues, greens and browns are her background colors; never intense colors because of the layers of atmosphere which subdue them and because of time and weather by which nature grays them. Brilliant tones of full chroma are used

sparingly in small spaces, as in nearby flowers, birds, butterflies and precious stones. It is only for a very few weeks in the year that autumn uses full strength of pure color in her great festival, and then if closer examination is made it is discovered that only the colors right at hand are seen in their full strength. They are softened by distance or by blending one with the other. The red of the apple is repeated somewhat in the russet green of the leaf. A flaming sumach leaf if compared with a slip of brilliant red paper in full chroma reveals a wealth of color tone ranging from yellow through red to red violet, yet these colors are harmonious, having unity in variety.

So the children can be taught to gray and darken the shadow side of a red apple with the green complement, bringing the colors into greater and more natural harmony. They can not represent, with their crude tools and untrained hands, a true picture of nature, but they may begin to *see* color and use it with greater discrimination. They can learn that quiet tones for large surfaces are best to live with, as the distant hills and woods, ploughed fields, floors, walls and everyday clothes, and that brilliant color, save in small quantities, is dazzling. Such color furnishes the *trimming,* not the *garment,* save at festal times.

Definitions of color terms. Hue is the color of a pigment or other material. There are an infinite number of hues or colors.

Value signifies the amount of light in a hue or color. A blue may be light or dark in value according to the amount of light contained in it.

Chroma signifies the strength or saturation of a hue. A red may be intense or strong in chroma or it may be subdued or weak in chroma. The hue, green, may, for example, be light in value and weak in chroma. We might then speak of it as a very light gray with a greenish tinge, for as the hue weakens chromatically and becomes less intense, whether light or dark, it approaches a neutral gray. The weaker it grows the grayer it becomes.

SAND TABLE

An Eskimo Village

Crayon colored background — clay and cotton

Elementary Grades — State Normal School — Buffalo, N. Y.

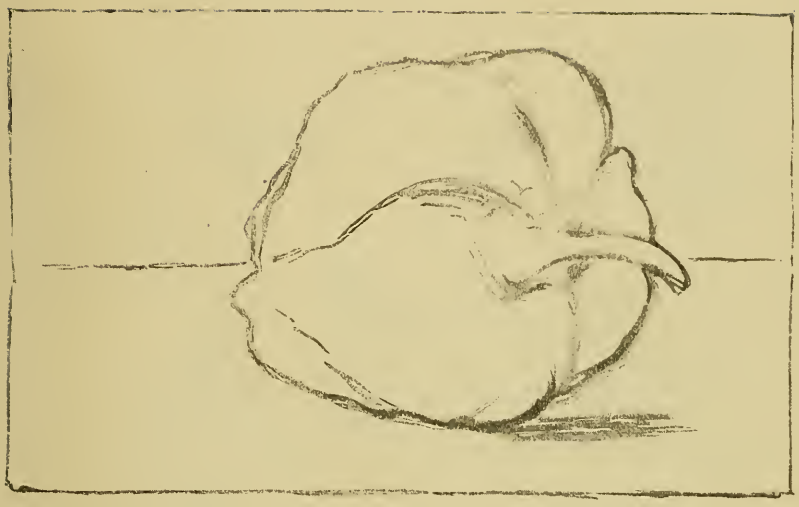


Plate 1

Pencil outline drawings of fall vegetables

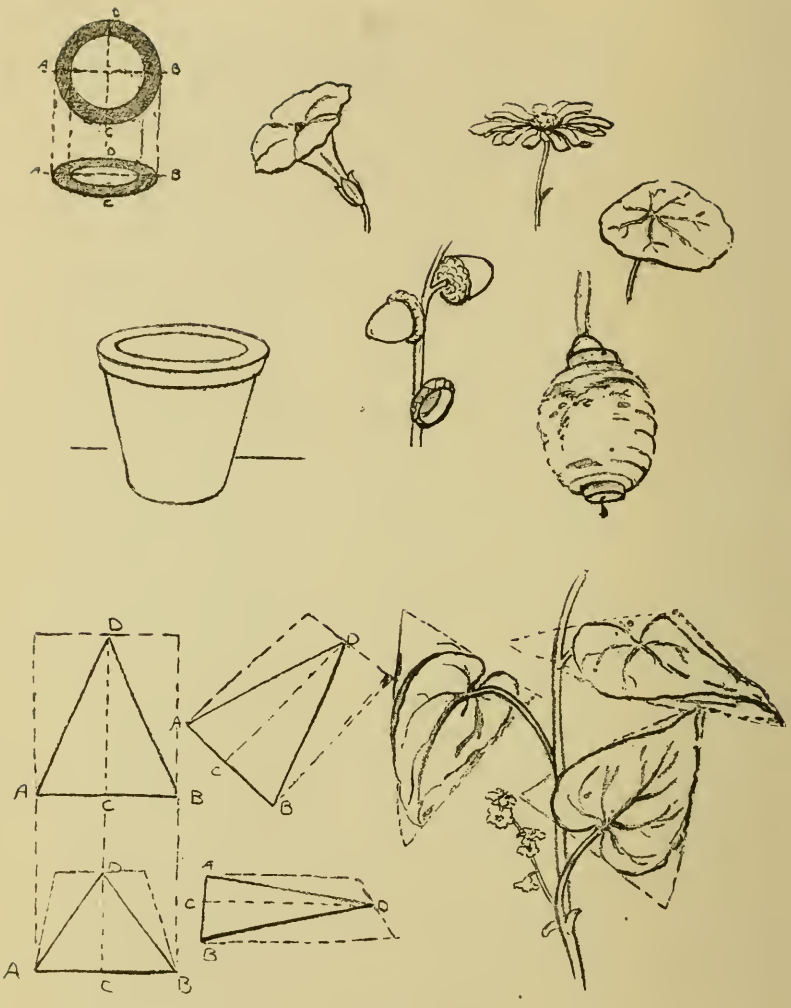


Plate 2

Comparison of natural and geometric shapes. Drawing is simplified when form is considered from this relative standpoint.

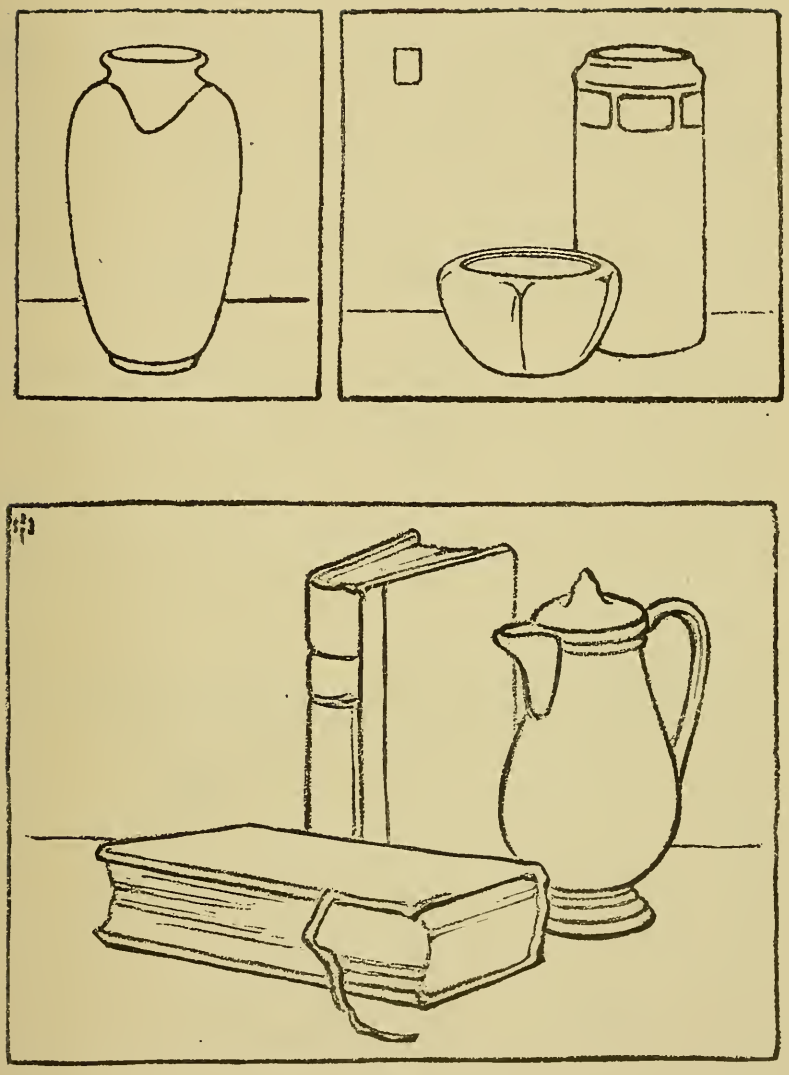


Plate 3

Outline pencil drawings of common objects. Constructive details such as rims, thickness of the covers of the books etc., are apparent.

Plate 4

Drawings showing the growth and development of the pea from the seed to the full grown plant. A type of drawing for the nature study class.

LETTERS FOR USE IN SCHOOLS AYQGKMWZ·

ABCDEFGHIJKLMN

OPQRSTUVWXYZ N

1234567890& 1234567890–

ABCDEFGHIJKLMNOPQRSTUVWXY

Z abcdefghijklmnopqrstuvwxyz 1910-12

ABCDEFGHIJKLMNOPQRSTUVWXYZ

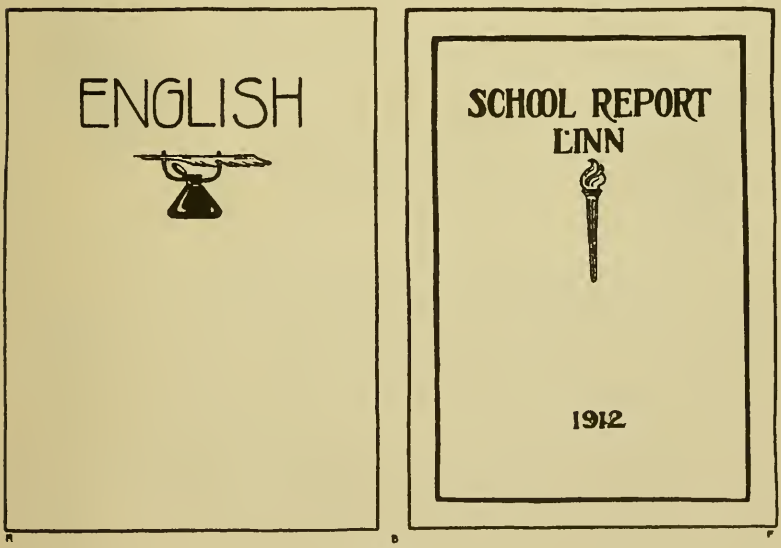


Plate 5

Chart of lettering showing application to covers. The Roman letter, or the second alphabet, should not be used below the seventh grade

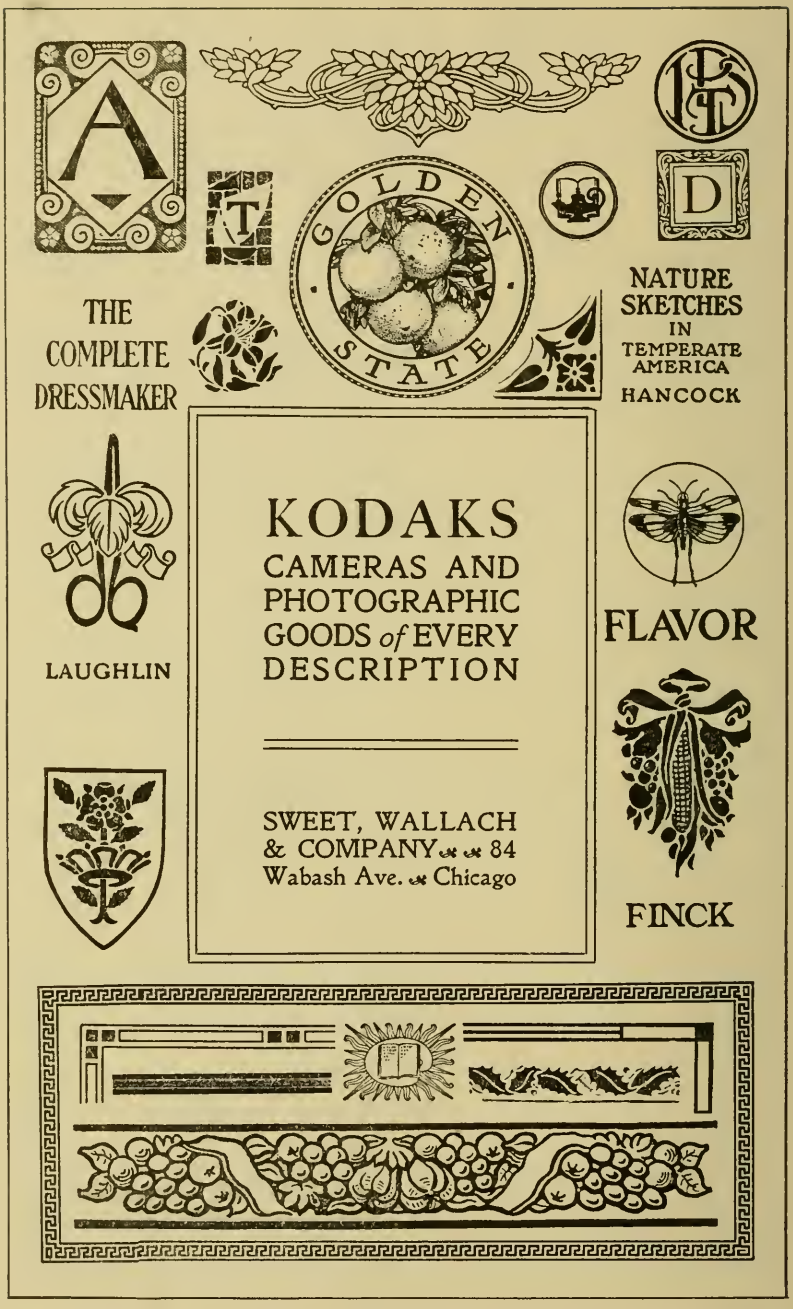


Plate 6

Clippings from various sources showing borders, headpieces, tailpieces, initial letters, single decorative units, and good spacing of letters

SEEDS
REPORT
LEAVES
ROBERT
ARITHMETIC
HOW TO SPELL
DRAWING
ELLA-M·
Envelopes for school use –
Book marks
Booklets
Cross stitch for cases, holders & bags
Weaving
Cuttings
FLY
TO YOU
for special days
HALLOWEEN 1913
EMO·
Merry Christmas
Ethel
from
Emily
1913
EASTER
1914
CALENDAR
DECORATION - GRADES - I - IV -
Aim - good arrangement in application of given units

Plate 7

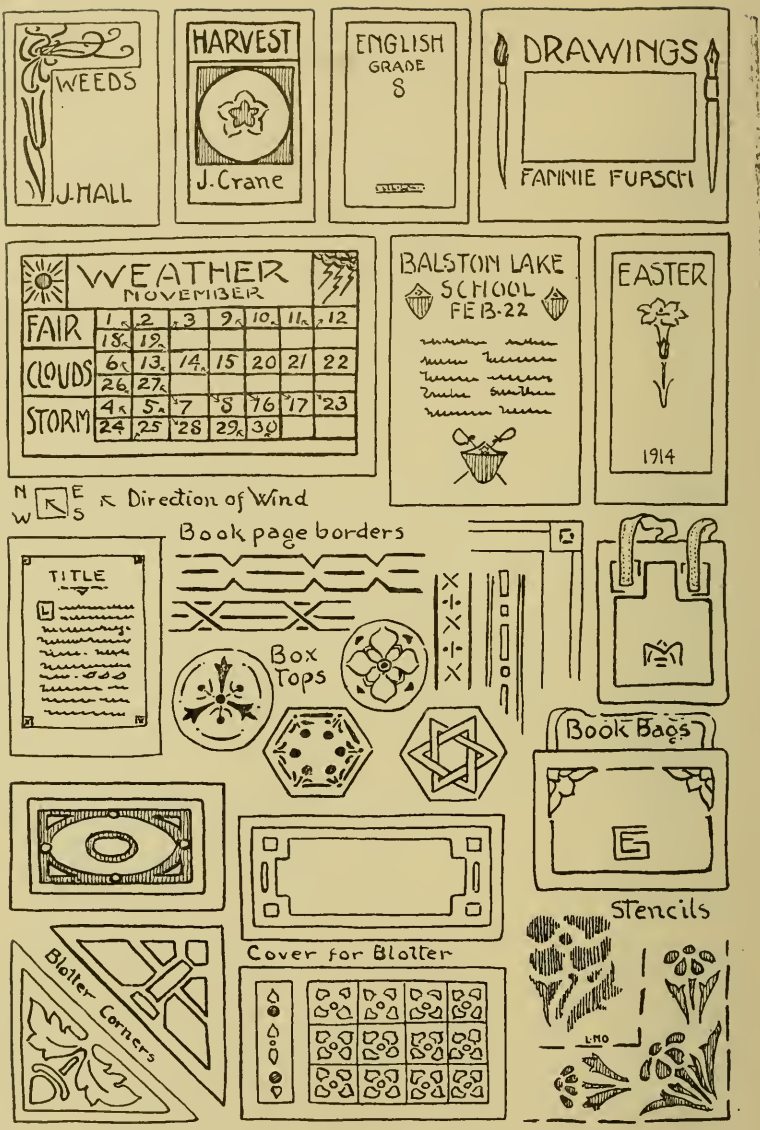


Plate 8

Design suggestions — grade 5–7. Aim: a knowledge of fundamental principles of design with application to practical problems.

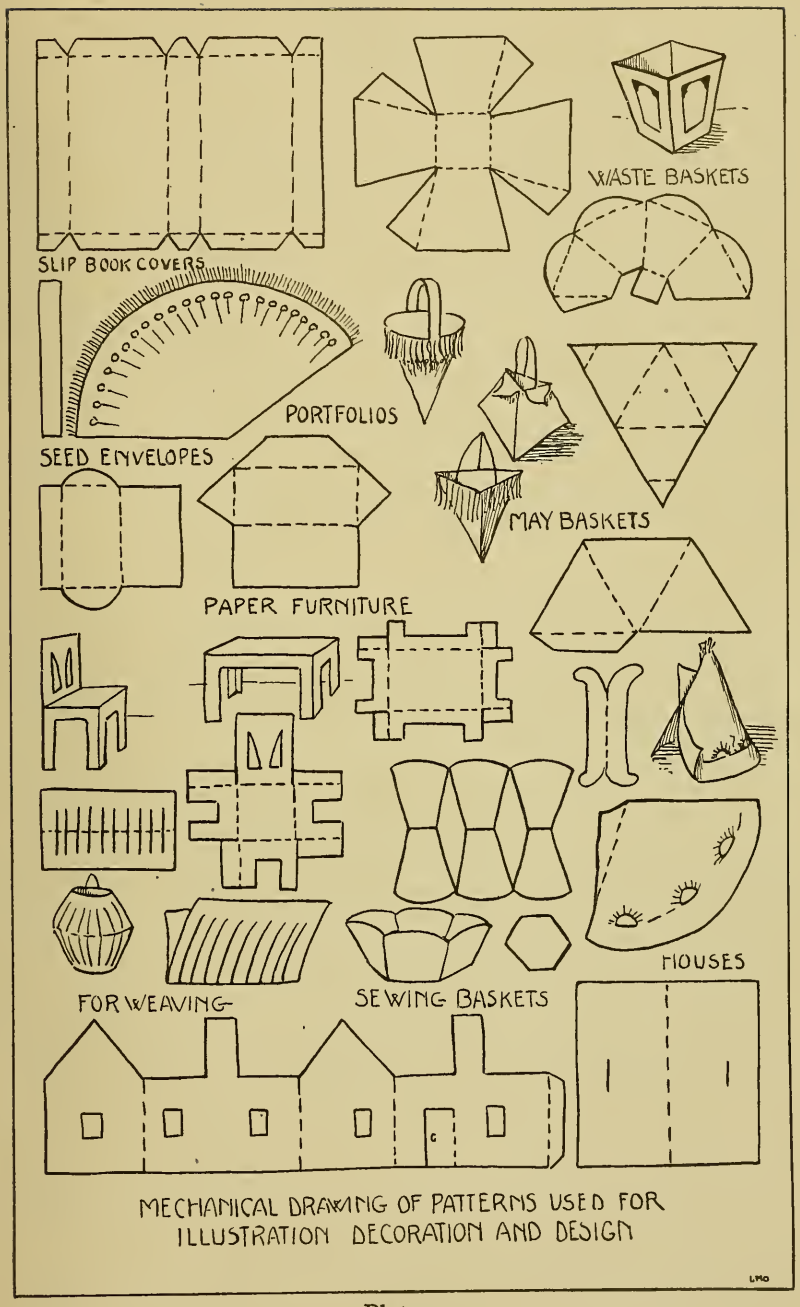

SLIP BOOK COVERS
WASTE BASKETS
PORTFOLIOS
SEED ENVELOPES
MAY BASKETS
PAPER FURNITURE
HOUSES
FOR WEAVING
SEWING BASKETS
MECHANICAL DRAWING OF PATTERNS USED FOR
ILLUSTRATION DECORATION AND DESIGN

Plate 9

GEOGRAPHY

The course in geography as here outlined is limited to the elementary school and may be begun if necessary as early as the third year. Children enter school with a certain amount of geographic information gained through observation or conversation with their elders, and in the nature of things they gather more even during the early years before formal instruction in the subject is begun. Naturally no attempt has been made to outline the amount and character of this geographic information. It will vary more or less with local conditions, although it will ordinarily include a knowledge of the local geographic features, with their names; the ordinary conditions of life and labor in the community; and the common terms of position, direction, distance and time, with their meanings.

In order to leave the local school authorities the liberty of action as to the time when the formal work in geography should be begun, the syllabus is outlined for four years of geographic study.

FIRST YEAR OF GEOGRAPHIC STUDY

When the child begins the study of geography, he has learned to read although usually not well enough to be independent. For this reason the textbook work of this year must be done in class, with the teacher. The time is devoted chiefly to what is ordinarily called "home geography."

The work in home geography should be very simple and should concern itself with a study of local industries and the conditions which have given rise to these industries and made them prosperous. Explanations should be of the most elementary character and deal only with relations which are perfectly obvious. The chief topics to be considered include:

1 The leading industries of the locality, their location and importance.

2 The sources of raw material and some stories concerning the collecting and handling of this raw material.

3 A study of the manufacture of this or of similar raw material. In this work local industries should, whenever possible, be visited.

4 Means and methods of transportation and communication.

5 Trade.

Whenever the locality studied is in a large city, it will be well to consider also: (1) the reasons for the location; (2) the needs of the people and the development of private industries, public service and public institutions.

Through a study of the ways of living the children become familiar with the idea of more or less distant lands where other people live and labor.

The remainder of the year should be devoted to the study of the "world as a whole," as to its larger divisions and in its simple relations. Here the globe will be found especially serviceable. The children learn:

1 That the earth itself is "round like a ball or an orange," and that people may travel around it. (Tell them stories of the voyages of Columbus and Magellan.)

2 That there are a number of large bodies of land and water: the first called "continents," and the second, "oceans."

3 That continents and oceans have special characteristics and names. These characteristics and names should be drilled upon until the children are able to recognize and name each continent and ocean, give their chief characteristics and define their positions in relation to one another.

4 That the earth rotates upon its axis and causes day and night.

5 That it is warmed and lighted by the sun.

6 That some parts of the earth are warmer than others.

7 That it is divided into zones and hemispheres and represented as a whole by the globe, and in its parts by maps.

Great pains should also be taken to teach the children the nature and use of maps, as in all the later study they will need to refer to them constantly. They are to be taught that maps are not pictures. The facts represented are usually shown by a system of arbitrary symbols bearing but little if any resemblance to the features themselves. Simple map work should be begun very early in the third grade and carried on systematically throughout the entire geography course. The first maps will, of course, be very simple. A map of the schoolroom with the teacher's desk, the rows of children's desks, the aisle, windows and doors, is difficult enough at first. Next the outline of the school building

may be drawn, and later the school yard with nearby streets or roads.

In map study the following points should be emphasized:

1 *The map idea.* The fact that people have agreed to represent land and water by means of "maps."

2 *The fixed position of maps.* This refers to the fact that maps are generally printed in books and hung on walls so that the northern part of the country is toward the top of the map, the southern part toward the bottom of the map, the eastern part at the right, and the western part at the left. In certain kinds of maps and in maps representing large areas this is not always possible, and therefore no map should be without symbols of some kind to indicate direction and position.

3 *Scale.* Maps are small and the areas mapped are often very large; in order that they may be properly constructed, they must be drawn in proportion, or to scale. Very simple scales should be employed at first: 1 inch to a foot, 1 inch to a yard, 1 inch to a rod, etc., depending upon the size of the area to be mapped.

4 *Symbolism.* In the construction of maps many symbols are used. These refer chiefly to topographic, hydrographic and cultural features. There is but little need of map symbols in the third grade but, as without knowledge of their meaning when they are used the map would be of little service, it is worth while to call attention to them early. All new symbols should be explained as soon as used.

During the entire third year, if the work is not provided for in the nature study course, simple weather observations should be made and records kept by the children.

Suggestions to Teachers

Do not attempt too much. Choose a few things which are important, study these with care and drill upon them until they are thoroughly understood. Only a few excursions should be undertaken, but each one should be discussed in class until the meaning of the things and facts observed is understood by the children.

Make illustrations and explanations simple. Use technical terms only when necessary and always explain them. *Do not attempt too much.*

Much of the work in home geography must necessarily be oral. For that reason it is necessary that the teacher be thoroughly

acquainted with local geography. Whenever excursions are to be undertaken the teacher should go over the ground first and make a definite plan as to time, route and the things to be seen. No really dangerous trips should be taken or allowed. The number of children should be limited. If the teacher is alone, twenty-five is the maximum for profitable work. In many cases, as in visits to factories, even this number will be found far too large for any one person to handle with safety.

It should be remembered that each excursion will furnish sufficient material for several subsequent class discussions, and that without these class discussions the excursions themselves are of little value. The general principles of industry, as given in an elementary textbook, should then be read and discussed.

Work of a physiographic character should be subordinated to its human relations. Little, if any, pure physiography should be taught at this time.

Tell the children stories about the industries, people, animals and plants. If such stories are simple enough they may be read by the children. It is believed that after the children have observed these things in their own home locality they will take keen delight in learning about them from books.

The work here outlined correlates closely with the other work of the grade. The study of industries furnishes an abundance of material for the best sort of modern arithmetic, and the stories of industry, people and products, when retold by the children, furnish excellent drill in the use of correct English.

As far as possible the work should develop in a logical order, but no attempt should be made to force the child to do much reasoning. In this early stage of his mental development he is not a reasoning being. He is, rather, storing his mind with facts. He remembers. If it is possible to remember things in relation to one another, so much the better.

Nothing quite takes the place of actual observation and experience. The best that can be done is to study pictures, and the best of these are none too good. Where a school is provided with a lantern, the many slides which the Visual Instruction Division of the State Education Department has fully cataloged and which are easily available, furnish excellent illustrative material. For smaller classes, for bulletin boards and for the use of pupils in individual study the same pictures can be had in the form of mounted photographs. Illustrations cut from magazines and other sources should be carefully selected. Not every picture is a good illustration; not all

are worth saving. They should be authentic, expressive, simple, of good quality, and when of large things should contain within themselves units of measure.

SECOND YEAR OF GEOGRAPHIC STUDY

North America, the United States and a Brief Treatment of the Other Continents

When the children enter upon the work of this year, they already know about the world as a whole, its continents and great oceans; and it seems natural, therefore, that the year's work should begin with a more detailed study of some one of the continents. This will, of course, be the one in which they live.

For this work the lessons should be assigned from a textbook, and the pupils should be held to a careful preparation of these lessons. The textbook should be descriptive in character, and the use of the same sort of text should be continued until the first study of the several continents and countries of the world has been completed.

The elementary textbook in geography is usually the first book placed in the hands of the children which they are expected to study for the purpose of obtaining information, and for that reason it is extremely important that its use should be carefully taught. This is best done by discussing each day in class the lesson for the next day, and at the close of the oral work, assigning the same lesson for study. Later the children should be called upon to recite upon the text. After a little it will be sufficient to point out during the assignment of the lesson the items of greatest importance, adding thereto "search questions," the answers to which may be found in the text. While this makes the teacher's work more difficult at first, it pays in the end because of the added clearness and interest.

North America

1 Position
   - *a* In zones
   - *b* In hemispheres
   - *c* In relation to bordering waters
   - *d* In relation to other continents

2 Form
   - *a* General
      - (1) Roughly triangular

b Actual, determined by
(1) Its more important indentations
(2) Its more important prolongations
(3) Islands adjacent

Note: The position and form of the continent may be learned best from a careful intensive study of the map

3 Size
a As compared with other continents. This should be done in an approximate way only. No area in square miles is to be given
b As shown by the fact that in latitude it stretches entirely across the north temperate zone and reaches into the arctic on the north and the torrid on the south

4 Relief
a Highlands
b Lowlands

5 Rainfall and drainage
a Gulf drainage
b Atlantic drainage
c Pacific drainage

6 Distribution of population
This should be an extremely simple division into dense, less dense, etc.

7 Political divisions
a United States and Alaska
b Dominion of Canada
c Mexico
d Central America
e West Indies

The general treatment of the United States should be rather brief, including only such topics as: its location in North America, its chief industrial regions, the character and distribution of its population, the record of its growth and its division into state groups. In the study of the state groups themselves much greater detail will be necessary. It is obviously impossible to outline definitely the topical study of the state group as different authorities make different divisions. It is important, however, that such topics as physical features, climate, the leading industries, the chief cities and important trade routes should be studied with care. The teacher should keep constantly in mind that it is the large general truths of relief, climate, natural resources and industry which are

wanted, not isolated evidences of geographical relationships, however interesting. The following outline should prove suggestive:

1 Position and size
   a In our own country
   b In relation to the neighboring state groups

2 Relief
   a A study of the character, elevation and extent of the highlands and lowlands, with constant reference to good physical maps

3 Drainage
   Study the chief drainage lines and their relation to the relief forms. Compare some of the larger streams as to size and commercial importance. The children should be able to locate and characterize the chief river systems. Drill most persistently upon the streams which are commercially important

4 Climate
   The characteristics of the climate of the different groups should be studied. Pictures showing typical summer and winter scenes from other parts of the country should be shown and the children made familiar with the underlying causes of the differences. Refer each time to a general rainfall map of the United States

5 Possibilities of occupation
   As a result of the relief, temperature and rainfall it will be found that certain regions are suited to certain industries; that is, they furnish certain possibilities of occupation. Study in connection with each state group any of the following that are important:
      a The agricultural and grazing sections and their chief productions
      b The mining regions and the most important minerals
      c The manufacturing regions and manufactures
      d The fishing grounds and the chief catches

The remaining countries of North America should be learned by name, and their relation to the general continental structure, drainage and climate briefly pointed out. The work thus far outlined will occupy the first half of the year. The second half should be devoted to a very rapid survey of the other continents. The leading countries are to be located and characterized. Only the more

important physical and political features need receive emphasis. The following order is acceptable:

1 South America and the South American countries
2 Europe and the European countries
3 Asia and the Asiatic countries
4 Africa and the African countries
5 Australia and the Australian countries

The chief points to be covered are: (1) position, (2) form, (3) size, (4) relief, (5) drainage, (6) climate, (7) occupations and industrial regions, (8) distribution of population, chief cities, and trade routes.

Be simple, confine the children to the study of geography and do not go into details.

THIRD YEAR OF GEOGRAPHIC STUDY

The work for this year should include the second and more detailed study of North America and the United States, with special emphasis on a study of the state groups. In connection with the study of the Middle Atlantic States the study of New York should be most thorough and detailed. The following outline will prove suggestive.

New York State

1 History
2 Position
  Northeastern part of the United States
3 Size, as indicated by:
  a The latitude
  b The time it takes to travel across the State
4 Relief
  a The Adirondack mountains
  b The Catskills and the Allegheny plateau
  c The lake plains
    Draw upon the board or paper a map showing the physical regions in a large way, without minor irregularities
5 Drainage
  a The St Lawrence system
  b The Hudson-Mohawk system
  c The Genesee
  d The Susquehanna
  e The Delaware

f The Allegheny and its relation to the Mississippi system.
g The coastal plain.

The children should be able to locate these drainage areas upon the maps and characterize them

6 Climate

This involves a study of the characteristics of temperature and rainfall in different parts of the State, as on Long Island, in the Adirondacks, and over the lake plains

7 Soils

In this study, the difference between the glacial soils and the alluvium of the river flood plains should be pointed out

8 Vegetation

This will include a study of:

a The market-gardening and truck-raising regions of Long Island
b The forests of the Adirondacks and the lumber industries
c The grazing regions of central and northern New York and the dairying industry
d The fruit belt of western New York and along the Great Lakes
e The general diversified agriculture of the rest of the State

9 Animal life

a Hunting in the Adirondacks
b Commercial fishing in the sound and the Great Lakes

10 Mineral wealth other than soils

a The quarries
b Cement
c Clays
d Salt
e Gypsum
f Petroleum
g Graphite
h Iron

11 Manufacturing

Point out that this will be carried on chiefly in large centers of population, and pass at once to a consideration of the

12 Distribution of population

The population will vary in density with the possibility of occupation. In manufacturing centers where the industries are the outgrowth of local supplies of raw material, that fact should be pointed out. Otherwise the chief industries should be noted without much further comment.

13 Chief trade routes

The dependence of the whole State upon New York City as an outlet point, and the physical control of possible trade routes, should be noted

a Railroads
b Electric roads
c State roads
d Barge canal system
e Eastern terminal of the Great Lakes at Buffalo
f Ocean routes centering at New York

14 Cities

15 Government

The study of the State should be thorough. It is, both physically and industrially, much more easily apprehended than more distant countries, more so even than distant parts of the United States. Its commercial relations through New York City are not only enormous in their total volume, but they are worldwide in extent. The remainder of the year should be devoted to a second survey of North America and the United States already mentioned. This will be entirely different from the first general survey outlined for the latter part of the second year. It will not only be fuller, involving a more complete knowledge of the physical, industrial and political conditions in all the more important countries, but it will also be of entirely different character.

Children are now to see the world, not as a mere assemblage of things and places, but as a world of order and unity where the different life forms and their environment are adjusted to one another, where races and nations, surrounded as they are by vastly different physical conditions, seem to have attained their characteristic civilizations through the influence of these. The working out of the relations existing between these civilizations and industries and their causes is the intensely fascinating problem set for the geography of the later years. It is the so-called "geography of reason," or the "geography of cause and effect." It is well to bear in mind, however, the fact that the influences which condition man's life are not exclusively physical, but are often historical and social.

Suggestions to Teachers (First and Second Years of Study)

Though the textbook is to be made the basis of the work in these two grades, the children should by no means be confined to the

text. Wherever there is a school library it should be rich in books of a geographic character and these ought to be given to the children for home reading. In any event, two or three series of geographic readers should be owned by the school and placed where they are easy of access. They may be used with advantage as supplementary readers.

All the standard textbooks in geography are liberally supplied with illustrations, and constant use should be made of them. In addition to these the teacher should make a collection of pictures which may be used in illustrating the lessons given.

The elementary map study begun in the first year should be continued and made more definite. Care should be taken that the things and places studied and read about are given their proper location upon the map. But the things should be *real* things, the places *real* places. Back of the use of the symbol should be a reasonably clear idea of the thing symbolized. To this end, modeling and a liberal use of pictures contribute. In the course of time maps ought to be so full of meaning that the children will take real delight in learning from a new map as much as is possible before the study of the text is begun. In the upper grades this may be carried to a point where the children are led to make intelligent inferences on the basis of the data which the map furnishes. (Nothing of the sort, however, should be attempted in the lower grades.)

FOURTH YEAR OF GEOGRAPHIC STUDY

During this year the second survey of the other continents is completed; South America and Europe should be emphasized. The increasing wealth and importance and the rapid growth of our commercial relations with the South American continent call for especial attention. The important countries in each continent should be taken up with reference to their great industries and the physical and social conditions influencing them.

The outline given below will prove suggestive, although the amount of time devoted to each topic will vary with the different continents as a whole. The emphasis should be upon the human rather than upon the purely physical aspect of the subject.

1 Position
   a Relative
   b Absolute

2 Form
- *a* Relative
- *b* Actual
  - (1) As shown by map
  - (2) Indentations
  - (3) Prolongations
- *c* Continental shelf

3 Size
- *a* Relative
  - (1) Compared with other continents
- *b* Actual
  - (1) Extreme breadth and extreme length; use maps
  - (2) Number of square miles

4 Relief
- *a* Highlands including plateaus
  - (1) Position
  - (2) Extent
  - (3) Character
- *b* Relation of the highlands to continental slopes and great drainage systems
- *c* Lowlands
  - (1) Position
  - (2) Extent
  - (3) Character

5 Climate
- *a* Temperature as controlled by
  - (1) Latitude
  - (2) Altitude
- *b* Winds and rainfall
  - (1) Prevailing winds
  - (2) Influence of highlands upon winds and rainfall
  - (3) Location of rainless areas and the reasons therefor

6 Drainage
- *a* Chief rivers
- *b* Lakes
  - (1) Fresh water
  - (2) Salt water

7 Zones of vegetation as dependent upon
- *a* Temperature
- *b* Rainfall

8 Distribution of animal life
9 Distribution of mineral resources
10 Distribution of population as dependent upon possibilities of occupation

Note: Here should be considered the geographical distribution of occupation resulting from the condition outlined under 7, 8 and 9 above, and the great industrial regions which have grown up in consequence of these conditions. . There should also be considered the relation of industry to

a Resources
b Commercial advantages

11 Development and location of centers of population as showing the needs of the people for

a Commercial centers
b Manufacturing centers
c Government centers

12 Development of commercial and trade routes resulting from the attempt of people to obtain the products and patronage of the other people of the world

a Natural conditions which aid commercial undertakings
b The routes which have been established and the chief commercial cities
c The commodities which are transported
d The influence of physical conditions upon *a* and *b* above

13 Political divisions
14 The government

The work of this year includes South America and Europe in detail, and a briefer study of Asia, Africa and Australia. The year should close with a study of the world's supplies of raw materials used in the preparation of food, clothing and shelter, in preparation for the work of the seventh and eighth grades.

Suggestion to Teachers

Lessons should be assigned with care and the pupils held to careful and exact preparation. They will at first need much help to enable them to work out the implications and the relations suggested by statements in the text.

Throughout the two years as above outlined considerable use should be made of large wall maps, and pupils should be encouraged

to make inferences whenever it seems to the teacher that they have sufficient data at hand to warrant their doing so.

Great pains should be taken not to overdo this map work, but it is valuable training when judiciously used. During these years a pupil ought to be able to "read" the information from the map almost as readily as from a printed page.

Encourage home reading, especially where the text seems brief, fragmentary or for any reason unsatisfactory.

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